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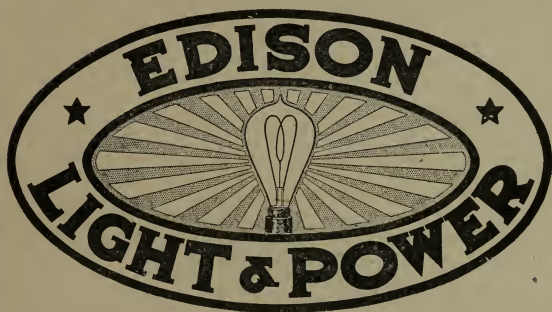
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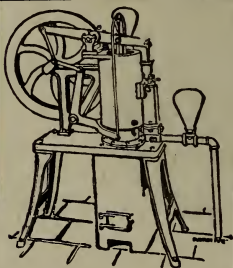
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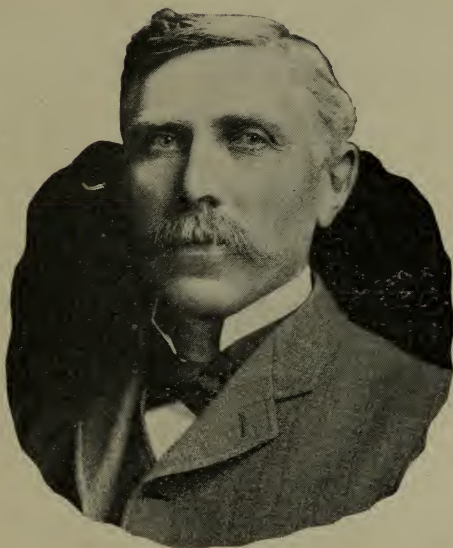
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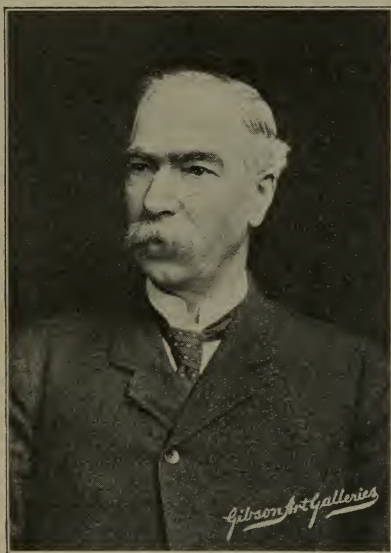
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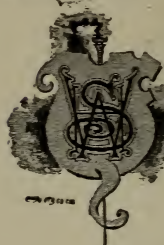
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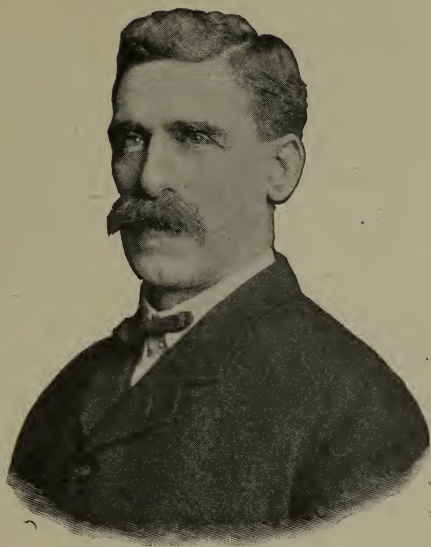
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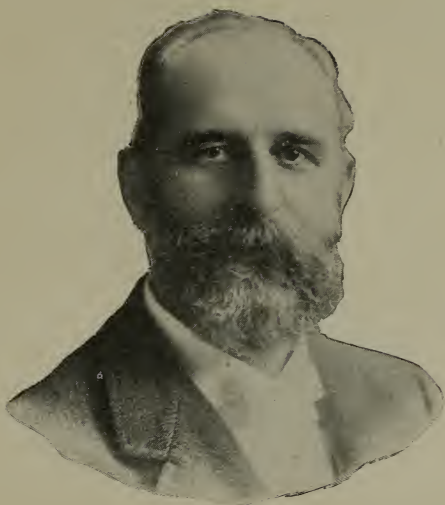
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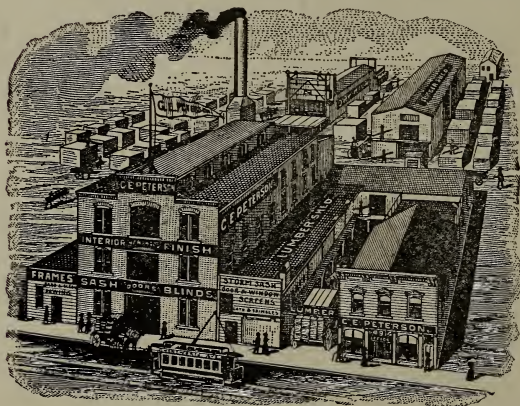
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Warner, The, Construction Co., 611, 112 S. Clark—Main 2565.
Warren, W. H. Mfg. Co., Blackhawk and Smith.
Wedekind, Aug., 5807 Henry St.
Wehling, Joe, 3536 Emerald Ave.
Wells Bros. Co., 1014 Monadnock Blk.—Harrison 500.
Wenke, B., 1523 N. Troy.
Williams, M. O., 549 Wells.
Winter, Michael, 928 W. 22d.
Wolfinger, Clarence I., 303, 226 La Salle.
Yuenger, Fred, 1200 S. Claremont Ave.
Zanders, F., 1398 W. 22d.
Zellweger, A. & Son, 581 Orchard—Belmont 1441.
Ziebarth, Reinhold, 939 W. 21st Pl.

M. F. RITTENHOUSE
President

J. W. EMBREE
Secretary

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CONSTITUTION AND BY-LAWS
OF THE
Carpenters' and Builders' Association
OF CHICAGO

(Revised April, 1901.)

PREAMBLE.

We, the Carpenter Contractors of Chicago, do hereby form ourselves into an Association for the purpose of uniformity of action in regard to matters involving our mutual interests, and adopt the following Constitution and By-Laws:

ARTICLE I.

Sec. 1. The name of this Association shall be "The Carpenters' and Builders' Association of Chicago."

ARTICLE II.

Qualification for Membership.

Sec. 1. Any carpenter contractor who has been actually engaged in the carpenter contracting business for a period of one (1) year prior to date of his application may become a member of this Association.

Sec. 2. Any person holding a membership in any Trades Union shall not be eligible as a member of this Association.

Sec. 3. Applicants who have been elected to membership in this Association shall not be considered members thereof, nor entitled to any of its rights or privileges, until after having signed the Constitution and By-Laws.

Sec. 4. Any member may be declared an honorary member at any annual meeting by a two-thirds (2-3) vote of all the members present.

ARTICLE III.

Expulsion or Re-instatement.

Sec. 1. No member shall be expelled or re-instated, except by a two-thirds (2-3) of all members present at any regular meeting.

ARTICLE IV.

Meetings.

Sec. 1. Regular meetings of the Association shall be held on the second Wednesday of each month, at 2 o'clock p. m., except the months of July, August and September.

Sec. 2. The annual meeting shall be held on the second Wednesday in January.

ARTICLE V.

Officers.

Sec. 1. The elective officers of this Association shall consist of a President, Vice President, Secretary, Treasurer, Board of Directors, Board of Arbitration, Board of Council Representatives and Auditing Committee.

Sec. 2. The Board of Directors shall consist of six members, three of whom, at the first annual election, shall be elected for two years, and three for one year, and three annually thereafter for two years. The President of the Association to be its presiding officer.

Sec. 3. The Board of Arbitration shall consist of five members, including the President of the Association, who shall be its presiding officer. At the annual election in 1899 there shall be two members elected for two years, two for one year, and two members annually thereafter for two years.

Sec. 4. The Board of Council Representatives shall consist of five members and five alternates, to be elected at the annual election in 1901, and annually thereafter.

Sec. 5. The Auditing Committee shall consist of three members, to be elected at the last regular meeting in 1901, and annually thereafter, by a majority vote.

BY-LAWS.

ARTICLE I.

Rules of Order.

Sec. 1. Robert's Rules of Order shall govern all meetings of this Association.

Quorum.

Sec. 2. Fifteen (15) members in good standing shall constitute a quorum for the transaction of business.

ARTICLE II.

Election of Officers.

Sec. 1. The annual election of officers shall be held on the Wednesday preceding the annual meeting (except the Auditing Committee—see Article V, Sec. 5, of the Constitution). The officers shall hold office for one year (except the Board of Directors and the Board of Arbitration—see Article V, Secs. 2 and 3, of the Constitution) or until their successors shall have been duly elected and qualified.

Sec. 2. The election shall be in strict accordance with the "Australian Ballot System," the polls to be open from 10 o'clock a. m. until 4 p. m.

Sec. 3. Nominations for the various officers to be elected shall be made at the last regular meeting in December. There will also be elected by a majority vote at this meeting an "Election Board," consisting of three judges and two clerks, to canvass the vote for this election only.

Sec. 4. Any member nominated for an office must file with the Secretary his non-acceptance of the nomination within six days after the nomination is made, otherwise the name of the nominee will appear on the official ballot for the first office for which he was nominated.

Sec. 5. On the Saturday preceding the election, the Secretary shall mail to each member in good standing a list of the candidates to be voted for to fill the various offices on the day of election. The Secretary shall also have a sufficient number of "Official Ballots" printed, and shall deliver same to the judges and clerks on the morning of the election.

Sec. 6. Immediately after the poll is closed, the vote shall be canvassed by the Election Board, and immediately after the canvass, the Election Board shall certify to the Secretary, on an official ballot, the number of votes each candidate has received, the same to be sealed in an envelope, and the Secretary shall post the result of the election on the bulletin board immediately. The candidates for the respective offices receiving the greatest number of votes shall be declared elected. All ballots to be preserved for sixty (60) days after election.

Sec. 7. No member of this Association shall hold more than one elective office at one time.

Sec. 8. Any officer who neglects the duties of his respective office for three consecutive months shall be cited before a special meeting of the Association to show cause why his office shall not be declared vacant, a majority vote shall be required to declare said office vacant.

Sec. 9. Should any vacancies occur by resignation or otherwise, such vacancies shall be filled at a special meeting, by a majority vote.

ARTICLE III.

Duties of Officers.

President.

Sec. 1. The President shall preside at all meetings, and act as chairman of the Board of Directors and the Board of Arbitration. He shall also appoint from the members of the Board of Directors, within ten days after the annual election, the following standing committees, each consisting of three members, to wit: Finance, Membership, Rooms and Printing. He shall also sign all vouchers, approved by the Finance Committee, and membership cards, and such other duties as may devolve upon the office. He shall also be the custodian of all surety bonds.

Vice President.

Sec. 2. The Vice President, during the absence of the President, shall perform the duties incumbent on the President.

Secretary.

Sec. 3. The Secretary shall keep a record of all the meetings of the Association and committees, and all other transactions

proper to be written; shall keep a record of all members; collect all initiation fees and annual dues, also all moneys from other sources, keeping a set of books suitable for the purpose, which shall be open for inspection by the President and Board of Directors at all suitable hours. He shall pay over to the Treasurer, without delay, all moneys received by him, taking the Treasurer's receipt for same. He shall issue vouchers on the Treasurer for all bills approved by the Finance Committee, also furnish itemized monthly statement of all receipts and expenditures to the Finance Committee. He shall mail to each member in good standing a notice of every meeting of the Association, and shall mail notices for all committee meetings, and perform such other duties as may devolve upon him. (He may be allowed an Assistant Secretary. See Sec. 5.) At the expiration of his term of office, all moneys, books and other property in his possession which belongs to the Association shall be delivered to his successor in office, when called on by, and in presence of, the Board of Directors.

Treasurer.

Sec. 4. The Treasurer shall receive all moneys from the Secretary, giving a receipt for the same; pay out money only upon vouchers properly signed by the President, Secretary and Finance Committee; all to be recorded in a book, provided for the purpose by the Association. He shall make a monthly statement to the Finance Committee of all moneys received and paid out, and shall furnish a statement to the Association at its annual meeting. At the expiration of his term of office, all moneys, books and other property in his possession which belong to the Association shall be delivered to his successor in office, when called on by and in the presence of, the Board of Directors.

Board of Directors.

Sec. 5. The Board of Directors shall have charge of all property belonging to the Association; shall approve the bonds of the Treasurer, Secretary and Assistant Secretary, and designate the bank or banks in which they shall deposit their funds, said deposit to be in the name of the Association, relieving them from any loss which may arise by the failure or suspension of said banks. They shall have general charge of the business of the Association; recommend, if necessary, the engagement and salary of the Assistant Secretary, and any other person necessary to be employed; disburse all moneys as approved by the Association. All matters of business shall be referred to the proper committees for investigation before action is taken by the Board. Finance Committee report to be referred to the Association at each regular meeting.

ARTICLE V.

Bonds.

Sec. 1. The Secretary, Treasurer and Assistant Secretary shall, before entering upon their duties, file with the President a bond of indemnity from a surety company, to be paid for

by the Association, and payable to the Association, for an amount to be determined by the Board of Directors.

ARTICLE V.

Board of Arbitration.

Sec. 1. This Board, when so instructed by the Association, can formulate agreements or working rules, which will be presented to the Association for consideration, and when any agreement or working rules are adopted, it shall be empowered to enforce the same.

Sec. 2. All differences, complaints, or grievances arising between members of this Association shall be submitted to this Board, who shall call for statements from all parties interested, and hear all evidence offered in the case, and render its decision in writing to the Association for final action.

Sec. 3. POWER TO SUMMONS MEMBERS.—This Board shall have the right to summons any member against whom complaints have been lodged for violation of agreements or working rules, and also to summons any member to appear as a witness. The summons shall be handed to the Secretary of this Association, who shall cause the member to be notified to appear before the Board on the date set.

Sec. 4. Failure to appear in accordance with such notice (except when, in the opinion of the Board, valid excuse is furnished) shall subject a member to a fine of five (5) dollars for the first default; ten (10) dollars for the second default, and the third default shall in itself constitute expulsion (independent of Article 3 of the Constitution).

ARTICLE VI.

Board of Council Representatives.

Sec. 1. This Board shall represent this Association in any organization which is now, or may be hereafter, organized, for the purpose of fostering, protecting and promoting the welfare and interests of the building trades generally. In the absence of one or more of the regular members, one or more of the alternates will perform the duties of the office during such absence.

ARTICLE VII.

Auditing Committee.

Sec. 1. The Auditing Committee shall audit the accounts of the Secretary and Treasurer annually, and report their findings to the Association at the annual meeting.

ARTICLE VIII.

Duties of Standing Committees.

Membership Committee.

Sec. 1. To this committee shall be referred all applications for membership.

Sec. 2. They shall investigate carefully all applications and shall demand the personal appearance of applicant and members recommending him for membership.

Sec. 3. They shall report the result of investigation in writing at the first meeting, recommending either the admission or rejection of the candidate.

Finance Committee.

Sec. 4. The Finance Committee shall have general supervision of the finances, sign all vouchers issued by the Secretary, and approved by the Board of Directors; also make monthly reports to the Board of Directors, and shall investigate and report on all matters referred to it.

Rooms Committee.

Sec. 5. The Committee on Rooms shall look after the Association room and furnishings and such other matters as may be referred to it, and make an inventory report of furniture and fixtures at the annual meeting of the Association.

Printing Committee.

Sec. 6. The Committee on Printing shall have charge of all advertising and printing and any other matters referred to it. Any expenditures necessary must first be approved by the Board of Directors.

ARTICLE IX.

Membership.

Sec. 1. Each candidate for membership shall file his application with the Secretary on a regular application blank, with the recommendation of two members in good standing endorsed thereon.

Sec. 2. All membership fees shall be twenty-five (\$25) dollars, and any one who has been expelled from the Association for a cause shall not be eligible to membership until the cause for which he was expelled has been removed.

Sec. 3. Election to membership shall be by ballot; a three-fourths vote of all members present shall be required to elect.

Sec. 4. The application of a rejected candidate shall not be received for a period of two months next following his rejection.

Sec. 5. All members by signing the Constitution and By-Laws pledge their honor to this Association, to be governed by its action in all cases.

Sec. 6. Any member having associated with him in the carpenter contracting business one or more partners, by signing the Constitution and By-Laws, pledges his firm or company to conform in all cases to the action of this Association; and said member shall furnish the Secretary with the names and addresses of all partners and persons interested in such company or firm at the time of signing the Constitution and By-Laws and shall immediately notify the Secretary of any change in said company or firm thereafter.

Sec. 7. Any member of this Association upon going to work as a journeyman carpenter, except for a

member of this Association, shall thereupon cease to be a member and any unearned portion of his annual dues which have been paid in advance shall be refunded to him.

Sec. 8. Any member in good standing may transfer his membership, provided the application for transfer shall be made in the same manner and subject to the same rules as applications for membership. Provided, however, that persons who have been expelled from the Association for non-payment of fines levied for a violation of any of the rules of the Association, shall not be eligible under a transfer of membership until he has first removed the cause for which he was expelled.

ARTICLE X.

Dues.

Sec. 1. The annual dues shall be twelve dollars, payable annually in advance on the 1st day of January. Newly elected members shall not pay dues for current month of their election.

ARTICLE XI.

Assessments.

Sec. 1. Active members shall pay into the treasury such assessments as may be made by the Association at any regular or called meeting.

ARTICLE XII.

Good Standing.

Sec. 1. Any member in arrears for more than fifteen (15) days after notice of assessments, or for more than sixty (60) days after notice of dues shall have been mailed to him, or for more than five (5) days after fine has been imposed on him, shall be considered not in "good standing," and shall not be entitled to a vote or to any of the rights, benefits or privileges of this Association. In case of non-payment of fine for thirty (30) days after same has been imposed on him he shall be expelled from the Association.

Sec. 2. In case of non-payment of dues or assessments for more than ninety (90) days after notice shall have been mailed to him, it shall be the duty of the Secretary to read the name of such person in arrears at the next regular meeting. Non-payment of dues or assessments within the above specified time, shall in itself constitute an expulsion (independent of Article 3 of the Constitution).

ARTICLE XIII.

Decorum, Etc.

Sec. 1. Any member of this Association who shall conduct himself in an improper or offensive manner in any of the rooms of the Association, or who shall be guilty of any act of bad faith, or dishonest, dishonorable or unbusiness-like conduct, injurious to the reputation or standing of the Association or its members, or who shall refuse, or wilfully neglect to abide by or comply

with the By-Laws of the Association, shall be censured, fined or expelled, as the Board of Directors, from the nature and gravity of the offense committed, may determine.

Sec. 2. When any member stands charged with any one or more of the offenses above provided for, it shall be the duty of the Board of Directors to fix upon a day when charges against such offending member shall be heard, and cause written notice of the time and place of such hearing to be delivered or mailed to such offending member at least five days before the day fixed upon for the hearing of the charges against him.

Sec. 3. If any member shall by the Board of Directors be adjudged guilty of the offense with which he stands charged, he shall be subjected to such penalties as the Board of Directors may determine. except the decision of the Board of Directors shall be in favor of expulsion of a member.

Sec. 4. In case of refusal or neglect, for the term of thirty days, on the part of any member, to abide or carry out the verdict of the Board of Directors, they may recommend his expulsion.

Sec. 5. Whenever any member shall have been censured, fined or expelled, notice of such fact shall be posted on the bulletin board of the Association for such length of time as the Board of Directors shall determine.

Sec. 6. When any member shall have been expelled his interest and right in the property of the Association shall be forfeited, and shall become the property of the Association absolutely.

ARTICLE XIV.

Special Meetings.

Sec. 1. Special meetings may be called at any time by the President, and may be called at the request of seven members in writing to the Secretary, stating the subject-matter to be presented to the Association. Only such subject-matter as is specified in the call shall be considered at each special meeting. The subject for discussion shall be mailed to each member in good standing not less than three days previous thereto by the Secretary.

ARTICLE XV.

Membership Cards.

Sec. 1. The President and Secretary shall issue a membership card annually to all members who have paid the annual dues.

ARTICLE XVI.

Attendance.

Sec. 1. Members only shall be permitted to be present at the meetings of this Association, except by unanimous consent of the members present.

ARTICLE XVII.

Sec. 1. Additions, alterations or amendments to the By-Laws may be made by two thirds (2-3) vote of all members present at

any special meetings called for the purpose—notice of the proposed addition, alteration or amendment having been given at the last regular meeting.

ARTICLE XVIII.

Order of Business.

1. Call to order.
2. Reading the minutes.
3. Communications.
4. Report of officers.
5. Report of Board of Directors.
6. Report of Standing Committees.
7. New members.
8. Report of Special Committees.
9. Unfinished business.
10. New business.
11. Adjournment.

Respectfully submitted,

CHARLES W. GINDELE,

T. J. HODGSON,

ROBERT MUNRO,

Committee on Revision of the Constitution and By-Laws.

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- Abbott, Frank B., 651, 164 Dearborn—Central 2133.
Adams, Charles R., 80 Dearborn—Central 1519.
Adler, Abraham K., 1641 Monadnock Blk.—Harrison 379.
Ahlshlager, John, 70 La Salle—Main 4599.
Allison, Lyman J., 115 Dearborn—Central 3311.
Alloway, Wilmore, 1551 Marquette Bldg.—Rand 294.
Almquist, Carl M., 1021, 112 Clark.
Alschuler, Alfred S., 1641 Monadnock Blk.—Harrison 379.
Anderson, Peter W., 560 55th.
Anderson, Theodore, 1335 Belmont Ave.
Artingstall, Samuel G., 240 Rialto Bldg.
Atehison, John D., 90 Washington—Central 3048.
Ayars, Charles R., 90 Washington.
Bacon, Francis T., 902-1 Park Row.
Baker, Frank G., 1235, 204 Dearborn.
Bannister George S., 1801 W. 100th—Washington Heights 472.
Barfield, William G., 618-87 Washington—Central 4364.
Barnes, Julian, 314 Railway Exchange.
Barrett, Fred L., 2695 N. 42d Ave.
Barthel, Julius Bernard, 1441 Unity Bldg.—Central 3811.
Barton, Francis M., 1224 Royal Ins. Bldg.—Harrison 1320.
Beauley, William J., 1007 Monadnock Blk.
Beaumont, George, 115 Dearborn.—Central 3144.
Beers, Herbert P., 168 Michigan Ave.—Harrison 5075.
Beers, Minard L., 168 Michigan Ave.—Harrison 5075.
Beiler, Henry P., 268-270 E. North Ave.
Belden, Edgar S., 1029 Marquette Bldg.
Bell, Mifflin E., 36 Aldine Sq.
Bell, Theodore N., 615-134 Van Buren.—Wabash 1152.
Beman, Solon S., 203 Michigan Ave.—Harrison 5089.
Bennett, A. T., 1442 Lexington.
Benson, Edward, 1779 N Clark—Belmont 2712.
Berlin, Robert C., 1212 Tacoma Bldg.—Main 2787.
Berndt, Francis J. J., 245 Seminary Ave.
Bessler, Edward W., 820 W. 12th.
Beyer, Oscar, 2865 N. Ashland Ave.—Lake View 953.
Bishop, Thomas R., 113 Adams—Central 365.
Blair, William W., 1008, 226 La Salle—Harrison 1721.
Blake, Edgar O., 620 Davis St., Evanston, Ill.—Evanston 1222.
Bloedner, Gustav, 630 Haddon Ave.
Blondin, Edward A., 5457 State.
Boller, Chester E., 6509 Lexington Ave.
Borst, George Henry, 1404, 100 Washington—Central 2570.

- Bowen, Howard, 918, 218 La Salle—Main 4357.
Bowes, Frederick Wm., 1525 N. Central Park Ave.
Braband, Frank J. E., 1528 Unity Bldg.—Central 4932.
Branitsky, William Thomas, 639 Unity Bldg.—Central 5026.
Braucher, Ernest N., 2788 W. Monroe.
Bright, Jasper T., 2563 N. 41st Ct.
Brinkmann, William J., 86 Metropolitan Blk.—Main 2331.
Brinsley, Herbert G., 909 Jackson Boul.
Brodhag, Louis R., Jr., 911 Hamilton Ct.
Brodhag, Louis, 2398 Lakewood Ave.
Brompton, Joseph C., 606 Masonic Temple—Main 2733.
Brookes, William J., 184 E. 37th—Main 2325.
Brooks, Thomas M., International Harvester Co., 7 Monroe.
Brown, Arthur G., 806, 184 La Salle—Central 2570.
Brown, F. G., 518 Steinway Hall.
Brown, Henry, 5516 State.
Brueckner, Carl Louis, 152 E. North Ave.
Brush, Charles E., 23-24 Borden Blk.—Central 4727.
Brydges, Frederick T. C., 1832 W. Washington.
Buck, Laurence, 218 LaSalle—Harrison 669.
Buck, Neils, 760, 125 LaSalle—Main 2124.
Buckley, Ashbury W., 300, 26 VanBuren—Wabash 305.
Buerger, Albert, Jr., 1533 S. 42d Ave.
Burnham, Daniel H., Railway Exchange Bldg.—Harrison 4145.
Burns, James, 1026, 112 Clark—Main 702.
Burtar, Adolph G., Chamber of Commerce Bldg.—Main 4567.
Butts, Julius A., 370 S. Paulina.
Cady, Jeremiah K., 1007, 172 Washington—Main 4689.
Camp, Erwin M., 600 Fisher Bldg.—Harrison 170.
Charvat, Anton, 547 Blue Island Ave.
Childs, Frank A., 1203 Maple Ave., Evanston, Ill.
Chubb, John D., 112 Clark—Main 453.
Church, Myron H., 1233 Marquette Bldg.—Central 1747.
Church, Walter S., 1401 New York Bldg.
Clark, Robert C., 7216 Harvard Ave.—Wentworth 6384.
Clarke, Edwin B., 1727 Wrightwood Ave.
Clay, William W., 218 LaSalle—Main 2749.
Cobb, Henry Ives, 100 Washington—Central 2633.
Cobb, Oscar, 85 Dearborn—Central 3726.
Coffin, Arthur S., 109 Randolph—Central 3263.
Cohen, Isidore, 628 Monadnock Blk.—Harrison 2213.
Colcord, Albert E., 610, 108 Dearborn—Central 5878.
Cole, Arthur W., 204 Dearborn—Central 2277.
Colton, Samuel K., 802 Reaper Blk.—Central 1425.
Coolidge, Charles A., Old Colony Bldg.
Cowles, William D., 3648 Vincennes Ave.
Crowen, Samuel N., 85 Dearborn—Central 3109.
Danielson, John, 624 Alma, Austin, Cook Co., Ill.
Davis, Zachary T., 1337 Unity Bldg.—Central 446.
Dawley, William S., LaSalle Station.
Dean, Arthur R., 912, 218 LaSalle—Main 4357.
Dean, George R., 918, 218 LaSalle—Main 4357.

- Demoney, Frank O., 10, 144 LaSalle—Main 4578.
 Dibelka, James B., 79 S. Clark—Central 1886.
 Dinkelberg, Frederick P., 1417 Railway Exchange.
 Doerr, Jacob F., 1222 Chamber of Commerce Bldg.—Main 3731.
 Doerr, John P., 1222 Chamber of Commerce Bldg.—Main 3731.
 Dornfield, John F., 134 VanBuren—Harrison 100.
 Dorr, John I., 7120 Langley Ave.—Wentworth 5323.
 Dowling, Edward F., 1411, 140 Dearborn.
 Drake, William H., 112 Clark.
 Drummond, William E., 510 N. Central Ave.
 Duesing, Theodore, 1293 W. Twenty-second.
 Duncan, John, 1541, 79 Dearborn.
 Dunning, N. Max, 1516 First National Bank Bldg.
 Durkee, Arthur R., 6350 Peoria.
 Dwen, Robert G., 1410 N. Y. Life Bldg.
 Eckstrom, Christian A., Tacon a Bldg.—Main 798.
 Edbrooke, Harry W. J., 90 Washington.
 Egan, James J., 85 Dearborn—Central 3592.
 Eichberg, S. Milton, 310 Journal Bldg.—Main 2196.
 Ender, Julius S., 355 Larrabee.
 Falls, Alexander S., Rookery Bldg.
 Fellows, William K., 1733 Marquette Bldg.—Central 4603.
 Ferree, Albert G., 6452 Union Ave.—Wentworth 368.
 Fiddelke, Henry G., 201 W. Lake, Oak Park, Ill.
 Field, George W. E., 214, 175 Dearborn—Central 1945.
 Fielder, Fred A., 312, 167 Dearborn.
 Fischer, John B., 7455 Parnell Ave.—Wentworth 6032.
 Fischer, Frederick Wm., 9154 Commercial Ave.—S. Chicago 1481.
 Fisher, Albert J., 654 W. North Ave.
 Fisher, James E., 508 Chamber of Commerce.
 Fitch, Frank D., 889 N. 40th Ave.
 Flanders, John J., 80 Dearborn—Main 4369.
 Flesch, Eugene W. P., 1012, 112 Clark.
 Fletcher, Robert C., 172 Washington—Main 4710.
 Flizikowski, John S., 1059 N. 41st Ct.
 Foehringer, Frederick, 168 Randolph.
 Foltz, Fritz, 140 Dearborn—Central 1023.
 Fortin, Joseph T., 421 New Era Bldg.—Monroe 1055.
 Foster, Arthur, 171 Railway Exchange—Harrison 4429.
 Fowler, George J., 940 Greenleaf Ave.
 Fox, Charles E., 934 First National Bank Bldg.
 Fromman, Emil H., 505 Schiller Bldg.—Central 3143.
 Frost, Charles S., 806 The Temple—Main 2979.
 Fry, Frank L., 1401, 134 Monroe.
 Fuller, Alexander A., 711 Journal Bldg.—Main 3269.
 Furst, Charles J., 172 Washington—Main 3099.
 Pyfe, James L., 417 Home Ave., Oak Park, Ill.
 Gall, William F., 79 Dearborn—Central 2804.
 Garden, Frank M., 414 E. Chicago Ave.
 Garden, Hugh M. G., 701 Teutonic Bldg.—Main 3840.
 Gardner, Horace C., care Swift & Co., Union Stock Yards.
 Garnsey, George O., 185 Dearborn.

Gatterdam, Fred E., 163 Randolph—Main 657.
Gauger, William, 1015, 112 Clark.
Gaul, Herman Joseph, 604, 172 Washington.
Gay, Henry Lord, 52 Dearborn—Central 3534.
Gerhardt, Paul, 1303 Schiller Bldg.—Central 3178.
Gibb, William R., 169 Jackson Boul.—Harrison 4137.
Gilbert, H. George, 119 Watt Ave.
Godfrey, Horace S., 719 Pullman Bldg.—Harrison 2867.
Goodman, William C., 1305 W. Adams.
Graham, Ernest R., 1417 Railway Exchange.
Granger, Alfred Hoyt, 806 The Temple.
Griesser, Richard, 1014 Schiller Bldg.—Central 3147.
Grotz, Charles J., 707 Armitage Ave.
Grussing, George H., 518 Ashland Blk.—Central 2842.
Gubbins, William F., 685 Ogden Ave.—Morgan 834.
Guenzel, Louis, 1616 Ashland Blk.—Central 3228.
Hale, Perley, 810 Atwood Bldg.—Main 4815.
Hall, E. Stanford, 918, 153 LaSalle—Central 739.
Hall, Oliver A., 516 W. 44th Ct.
Hallberg, L. Gustav, 812 Oxford Bldg.—Main 1768.
Hallstrom, Nils, 929 Roscoe.
Hamilton, John L., 4720 Madison Ave.
Handy, Frank W., 1002, 172 Washington—Main 4689.
Hansen, Christian O., 217 Dearborn Ave.
Hansen, Harold M., 88 LaSalle—Main 3899.
Hansen, Paul, 232 Hampden Ct.
Harlev, William, Jr., 126 Park.
Harned, Henry P., 524, 218 LaSalle—Main 2355.
Hartigan, William B., 586 Warren Ave.
Harvey, George L., 615, 175 Dearborn—Central 1945.
Harvey, John, 9749 Avenue H, South Chicago, Ill.
Hatzfeldt, Clarence, Tribune Bldg.—Central 4171.
Hawk, Albert T., 704 LaSalle.
Hays, Harvey G., 651 First National Bank Bldg.
Hazleton, Herbert T., 805, 305 Dearborn.
Hecht, Albert S., 91 Metropolitan Blk.
Heinz, Lorenz H., 78 LaSalle—Main 3962.
Hermann, Charles F., 417 City Hall.
Hessenmueller, Frank W., 801, 225 Dearborn—Harrison 2851.
Hetherington, John T., 1404, 100 Washington—Central 2570.
Hettich, Albert H., 604 Security Bldg.
Hettinger, John P., 505 Journal Bldg.—Central 2570.
Heun, Arthur, 812 Steinway Hall—Harrison 502.
Higgins, Francis J., 107 Evanston Ave.
Hill, Henry W., 70 LaSalle—Main 3960.
Hodgkins, Howard G., Marquette Bldg.
Hoffman, H. Curtis, 6636 Lexington Ave.
Hogenson, Edward A., 264 N. Hoyne Ave.—Seeley 3632.
Holabird, William, 1618 Monadnock Blk.—Harrison 3600.
Holden, Ben Edwin, 606, 175 Dearborn—Central 4551.
Holmboe, Leonard C., care Illinois Steel Co., South Chicago, Ill.
Holsman, Henry K., 663 Monadnock Blk.

Hoskins, John M., 1280 Madison.
 Hotton, Bartholomew J., 927, 153 LaSalle.
 Houda, Joseph F., 622 Roanoke Bldg.—Central 742.
 Huber, Julius H., 710, 171 Washington—Main 1950.
 Huehl, Harris W., 59 Metropolitan Blk.—Main 3718.
 Hulla, John, 801, 84 LaSalle—Main 4433.
 Hunt, Jarvis, 1407 Monadnock Bk.—Harrison 3316.
 Hussander, Arthur F., 720 Tribune Bldg.
 Hyde, Frank D., 900 Warren Ave.
 Ingalls, Arthur R., 6558 Ross Ave.
 Jaffray, Henry S., 6249 Kimbark Ave.
 Jetsen, Ernest, 505 Schiller Bldg.—Central 3143.
 Jenney, William LeBaron, 1401 N. Y. Life Bldg.—Central 1742.
 Jensen, Elmer C., 1401 N. Y. Life Bldg.
 Jolson, C. Frank, Pullman Bldg.—Harrison 2867.
 Johnson, Oscar, Clark and Sheffield Ave.
 Johnston, Joseph S., 359 E. 43d.
 Johnston, W. K., 1116 The Temple—Main 1141.
 Jyrch, Karl E., 694 Fulton—Ogden 715.
 Kable, Charles H., 6201 Woodlawn Ave.
 Kaeseberg, Frank, 762 Sheffield Ave.
 Kaiser, August, 428 S. California Ave.
 Kaiser, Otto, 75 Bingham.
 Kartach, Charles W., 1096 W. Polk.
 Kelley, Irving W., 59 Dearborn—Central 3521.
 Kilroy, John G., 4623 Evans Ave.
 Kingsley, George S., 36 LaSalle—Market 414.
 Kintz, George A. W., 9710 Logan Ave.
 Klewer, William L., 1305 Schiller Bldg.—Central 3685.
 Kley, Henry T., 214 Milwaukee Ave.
 Klucina, John, 1185 S. Homan Ave.
 Knapp, George O., 158 Michigan Ave.—Central 1076.
 Knudson, Johan F., 801 W. North Ave.
 Koenig, Fred, 1656 Grenshaw.
 Koll, Henry C., 77 Weed.
 Koster, John L., 185 Dearborn.
 Krausch, Walter T., 209 Adams.
 Krause, Edmund R., 1601, 100 Washington—Central 2646.
 Krieg, William G., 84 Washington—Central 3090.
 Kuehne, Carl Oskar, 171 Center.
 Kupfer, Otto A., 904 Millard Ave.
 LaBelle, Edward C., 607 Thomas—Seeley 65.
 Lang, Alkert, 4940 St. Lawrence Ave.
 Lang, Fritz, 700 Milwaukee Ave.
 Lang, Louis A., 2611 N. 41st Ct.
 Larmon, Philip, care Libby, McNeil & Libby, Union Stock Yards.
 Lehle, Louis, 812 Schiller Bldg.—Central 5544.
 Levy, Alexander L., 616 Chicago Opera House Blk.—Main 4736.
 Liedberg, Hugo J., 96, 163 Randolph—Main 3617.
 Linderorth, Swen, 5844 Elizabeth.
 Lindquist, Frederick, 1408 Franklin Poul.—Central 3048.
 Llewellyn, Joseph C., 1516 First National Bank Bldg.

- Lonek, Adolph, 622 Roanoke Bldg.—Central 742.
Long, John T., 6455 Monroe Ave.
Lovell, Sidney, 168 Michigan Ave.
Lowden, Alexander H., 90 Washington.
Luetkert, Otto, 65 S. Clinton.—Main 1728.
Lund, Anders G., 602 W. 63d—Normal 267.
MacDonald, Frederick J., 755 W. 63d Pl.
MacNeille, Perry R., 1703 Railway Exchange.
Mahaffey, David, 711, 84 LaSalle—Auto. 7335.
Maher, George W., 820, 218 LaSalle—Main 2270.
Mahler, Harry H., 1730 Marquette Bldg.
Mahoney, Marion L., 281 W. Adams.
Mann, Horace B., 1703 Railway Exchange Bldg.
Marble, Oliver W., 916 Chicago Stock Exchange Bldg.
Marshall, Benjamin H., 934 First Nat. Bank Bldg.
Marston, Louis H., 491, 43d.
Matz, Otto H., 78 LaSalle—Main 3962.
Maurer, William, 668 Augusta.
Mayo, Ernest A., 1715 Marquette Bldg.—Central 4147.
McAfee, Charles H., 36 LaSalle.
McCall, Thomas, Railway Exchange Bldg.
McGavick, Joseph P., 809, 17 Vanburen.
McMichael, John, 6023 Calumet Ave.—Wentworth 3562.
McMullen, Henry J., 1618 W. 12th—Loomis 1042.
McMurry, Oscar L., 6416 Kimbark Ave.
Mead, Daniel W., 164 Dearborn—Central 2870.
Meissner, C. L. Henry, 92 N. Central Park Ave.
Meldahl, Jens J., 801, 225 Dearborn—Harrison 2851.
Melin, Charles W., 1166 Columbia Ave., Rogers Park.
Merrick, Harry A., 1778 Milwaukee Ave.
Metcalf, John S., 620 The Temple.
Miller, Grant C., 1411, 140 Dearborn.
Miller, Joseph A., 1614, 59 Clark.
Miller, William C. 69 S. 41st Ave.
Mitchell, Louis M., 145 LaSalle—Central 5268.
Molitor, Joseph, Jr., 404 Journal Bldg.
Monell, Frederick D., 4420 Langley Ave.
Morehouse Merritt J., 702 Fisher Bldg.—Harrison 1779.
Morey, Arthur G., 760, 125 LaSalle.
Mosher, E. Bradford, 5830 Rosalie Ct.
Moulton, George M., 1809 Fisher Bldg.—Harrison 143.
Mueller, Herman, 561 S. Ashland Ave.
Mullay, Thomas H., 1601. Monadnock Blk.—Harrison 4091.
Mundie, William Bryce, 1401 N. Y. Life Bldg.—Central 1742.
Murphy, John H., 600 Fisher Bldg.—Harrison 170.
Neebe, John, 598 W. Chicago Ave.
Neebes, George S., 159 LaSalle.
Nelson, Edward O., 720 Tribune Bldg.
Nettenstrom, Joel U., 1232 Railway Exchange.
Newberry, Robert T., 1300, 184 LaSalle—Main 4870.
Newell, Frank V., 78 LaSalle—Main 1407.

Newhouse, Henry L., 4630 Prairie Ave.—Oakland 1167.
 Newman, Edgar M., 415 Stock Exchange—Main 4128.
 Newman, William L., 909 Jackson Boul.—Ashland 1031.
 Nicholson, Joseph T., 6112 Lexington Ave.
 Nicholson, William A., 6541 Greenwood Ave.
 Nielsen, Carl, 450, 37th Pl.
 Niemz, Arthur R., 1511 Bradley Pl.
 Nimmons, George C., 1733 Marquette Bldg.—Central 4603.
 Norman, Andrew E., 3575 N. Clark.
 Norton, Francis J., Kenmore Ave., Edgewater.
 Nothnagel, Charles W., 914 W. 67th.
 Novy, Ludvik, 1618 W. 22d.
 Nyden, John A., 1091 Victor.
 O'Brien, Maurice G., 5406 Ridgewood Ct.
 Ohlhaber, William, 171 Washington—Main 4135.
 Ohrenstein, Ernest J., 1730 First National Bank Bldg.
 Otis, William A., 175 Dearborn—Central 4551.
 Ottenheimer, Henry L., Schiller Bldg.—Central 1666.
 Packard, Alyn A., 1706 Marquette Bldg.—Central 4229.
 Pagels, William F., 34 Clark.
 Palmer, Charles M., 1207 Monadnock Blk.
 Pashley, Alfred F., 1605 Manhattan Bldg.—Harrison 3418.
 Patton, Normand S., 1411, 140 Dearborn—Central 957.
 Peabody, Arthur, 1007 Monadnock Blk.—Harrison 3085.
 Pentecost, Douglas S., 92 LaSalle.
 Perkins, Dwight Heald, 1200 Steinway Hall—Harrison 783.
 Perkins, Frederick W., 1612 Marquette Bldg.—Central 2205.
 Pfeiffer, George L., 1621 W. 12th.
 Phillips, Charles A., 1615 Ashland Blk.
 Pistorius, Henry, 720 Tribune Bldg.
 Pond, Allen B., 1109 Steinway Hall.
 Pond, Irving K., 1109 Steinway Hall—Harrison 1865.
 Pope, John Francis, 708 Sawyer Ave.
 Postle, David E., 1731 Marquette Bldg.—Central 3489.
 Poulsen, Edward J., 594 N. Francisco.
 Poulsen, George F., 1008, 112 Clark—Harrison 4145.
 Powell, Russell B., 1551 Marquette Bldg.—Randolph 294.
 Powers, Horace S., 3004 Prairie Ave.
 Poyer, Andrew, 10536 Vincennes Rd.
 Poyer, Max, 10536 Vincennes Rd.
 Pridmore, John E. O., 1701 First National Bank Bldg.
 Prindeville, Charles H., 85 Dearborn.
 Probst, Edward, 794 Millard Ave.—Harrison 4145.
 Prun, William H., Jr., 4217 Berkeley Ave.—Drexel 10073.
 Purssell, George G., 1311 W. Monroe.
 Quackenboss, Leonard G., 108 Fifth Ave.
 Rae, Robert, Jr., 525, 134 VanBuren.
 Raeder, Henry, 109 Randolph—Central 3263.
 Randak, Frank, 1614 Ashland Blk.
 Randolph, S. M., 1005, 138 Washington.
 Rapp, Cornelius Ward, 100 Washington—Central 1638.
 Rapp, George Leslie, 1005, 100 Washington.

- Rautert, Frederick, 99 Metropolitan Blk.—Main 657.
Reinhardt, Gustav A., 170 Osgood.
Renwick, Edward A., 1618 Monadnock Blk.—Harrison 3600.
Reynerton, Theis J., 2361 Bloomingdale Ave.
Rexny, James B., 1405 Monadnock Blk.
Rich, Evert, 6510 Harvard Ave.
Richards, Henry H., 615, 134 Van Buren—Harrison 1509.
Riddle, Herbert H., 1841 First National Bank Bldg.
Riegert, Emil, 74 Racine Ave.
Rinn, Charles, 2629 N. Lawndale Ave.
Ritter, Louis E., 1433 Marquette Bldg.
Robertson, David, 1201, 184 LaSalle.
Robinson, Argyle E., 84 LaSalle—Main 2228.
Roche, Martin, 1618 Monadnock Blk.
Rogers, James Gamble, 1615 Ashland Blk.—Central 1524.
Rohm, Jean Baptist, 360 Armitage Ave.
Rosenthal, Alexander B., 125 Walnut—Seeley 2931.
Rouleau, Arthur, 934 First National Bank Bldg.
Roy, Franz, 275 92d.
Runde, Otto, 119 Rice.
Russell, Lewis E., 5409 Washington Ave.
Rusy, Anthony F., Tritone Bldg.
Rutan, Charles H., 1780 Old Colony Pldg.
Sandegren, Andrew, First National Bank Bldg.—Central 5032.
Saxe, Ira C., 1303 Washington, Evanston, Ill.
Schaub, Louis J., 717 Campbell Ave.
Schenck, Rudolph, 157 Michigan Ave.
Schlacks, Henry J., 21 Borden Blk.—Central 1781.
Schmid, Richard G., 59 Metropolitan Bldg.
Schmidt, Richard Ernest, 172 Washington—Main 3840.
Schmidt, Hugo, 285 Fremont.
Schock, F. R., 913, 172 Washington—Main 1200.
Schoenfeldt, Frank, 1755 W. 12th.
Schroeder, John M., 99 Randolph—Central 5440.
Schroeder, William H., 192 W. 22d.
Schuberth, George F., 568 Sheffield Ave.
Schultz, Martin M., 784 W. 21st.
Schulze, William, 1156 Milwaukee Ave.
Schweizer, Joseph, 99 Randolph.
Seator, Sinclair M., 825 Reaper Blk.—Central 5094.
Sellon, George Clinton, 922 Chamber of Commerce.
Shankland, Edward C., 1104 Rookery Bldg.—Harrison 488
Shattuck, Walter F., 900, 218 LaSalle—Main 3295.
Shaw, Howard Van Doren, 615, 175 Dearborn—Central 1945.
Shipman, Stephen V., 240 LaSalle.
Sierks, Henry R., 303, 40 Dearborn.
Silsbee, Joseph L., 701, 115 Dearborn—Central 1961.
Smith, Robert S., 818, 187 Dearborn—Central 3909.
Smith, Sidney, 1686 N. Clark—Central 88.
Snyder, Edward E., 3 Ashland Boul.
Sorenson, Charles F., Maplewood and Potomac Aves.
Spencer, Robert C., Jr., 1107 Steinway Hall—Harrison 783.

Speyer, Julius, 172 Washington—Main 1405.
Speyer, Oscar P., 172 Washington—Main 1405.
Spitzer, Maurice, 650 N. Hoyne Ave.—West 2171.
Spohr, George, 132 Siegel.
Stanhope, Leon E., 1201 The Temple—Main 906.
Stebbing, Walter L., Monadnock Blk.
Steinlach, John G., 625 W. Chicago Ave.
Steuben, Theodore, 1110 Lincoln Ave.
Stevens, Charles W., 1020 Schiller Bldg.
Stevens, Harry E., 2146 W. Monroe—Ogden 633.
Stoddard, Edward B., 150 S. Homan Ave.
Stone, John R., 1405 Hartford Bldg.—Central 5559.
Strandel, Charles A., 502 Tacoma Bldg.—Main 2218.
Strippleman, William, 927, 155 LaSalle—Central 4201.
Sturm, Meyer J., 704, 84 LaSalle—Main 2995.
Sturnfield, Charles H., 1238 W. 21st.
Sullivan, Louis H., 1600 Auditorium—Harrison 357.
Sutcliffe, John, 218 LaSalle—Auto. 3701.
Swanson, H. Frederick, 172 Washington—Main 1200.
Swern, William C., 803, 97 Clark—Central 5747.
Thain, Joseph A., 3152 Prairie Ave.
Thissle, Charles, 451 Milwaukee Ave.
Thomas, William, 163 Randolph.
Thomsen, Frederick W., 44 Seminary Ave.
Tilton, John Neal, 1024, 112 Clark—Main 3135.
Tomlinson, Henry W., 1107 Steinway Hall—Harrison 502.
Townsend, Frederick B., 218 LaSalle—Auto. 2586.
Treat, Samuel A., 1507 Fisher Bldg.—Harrison 794.
Turnock, E. Hill, 92 LaSalle—Main 2105.
Van Keuren, Charles W., 119 LaSalle—Market 607.
Van Keuren, William J., 78 LaSalle—Main 2046.
Van Osdel, John Mills, 225 Dearborn—Wabash 2822.
Viehe-Naess, Ivar, 1994 Kenmore Ave.
Voigt, Gustav, 3220 S. Canal.
Von Holst, Hermann V., 643 The Rookery.
Waful, Edward E., 172 Washington.
Wagner, John H., 107 Dearborn—Central 1314.
Walker, William Ernest, 168 Michigan Ave.—Harrison 2582.
Walter, Wayne M., 1001 Atwood Bldg.
Waterbury, Charles D., 1109 Steinway Hall.
Waterman, Harry H., 218 LaSalle—Main 4522.
Watson, Robert Bruce, 805, 303 Dearborn—Harrison 1488.
Weary, Charles A., 66, 92 LaSalle—Main 1354.
Weber, Alfred P., 172 Washington—Main 3099.
Weber, Peter J., 702 Fisher Bldg.—Harrison 1588.
Wegman, Julius, 571 N. Clark.
Wegman, Julius F., 805, 305 Dearborn—Harrison 1488.
Wheeler, Charles F., 2862 N. 46th Ct.
Wheelock, Harry B., 1106 Schiller Bldg.—Central 5058.
Wight, Peter B., 1112 Chamber of Commerce—Main 1544.
Wilkowski, Joseph A., 1177 N. Leavitt.
Williamson, Robert B., 720, 143 Dearborn.

- Williamson, William G., 1124, 153 LaSalle—Central 2543.
Wilmanns, August C., 7 Monroe—Main 4821.
Wilson, Horatio R., 218 LaSalle—Main 3295.
Wing, Thomas W., 904, 185 Dearborn.
Winslow, Benjamin E., 5411 Ridgwood Ct.
Witherspoon, John M., 629, 630 Monadnock Blk.
Wittekind, Henry, 28 E. Jackson Boul.—Harrison 939.
Woerner, Adolph, 217 Center.
Wolf, Frederick W., 139 Rees—North 445.
Woltersdorf, Arthur F., 70 LaSalle.
Woodyatt, Ernest, 1615 Ashland Blk.—Harrison 5247.
Worthmann, Henry, 625 W. Chicago Ave.
Wright, Harvey, 1203, 226 LaSalle—Harrison 3522.
Wright, Willis J., care Armour & Co., Union Stock Yards.
York, John D., 499 N. State.
Youmans, William A., 309 Bowen Ave.
Youngberg, John E., 218 LaSalle—Main 4877.
Zarbell, Iver C., 528 Reaper Blk.—Main 296.
Zatherberg, Martin, 325 City Hall.
Zimmerman, Albert G., Home Insurance Bldg.—Central 530.
Zimmerman, Hugo H., 1279 Perry.
Zimmerman, W. Carbys, 1101 Steinway Hall—Harrison 455.
Zippwald, Otto, 2284 N. 42d Ct.



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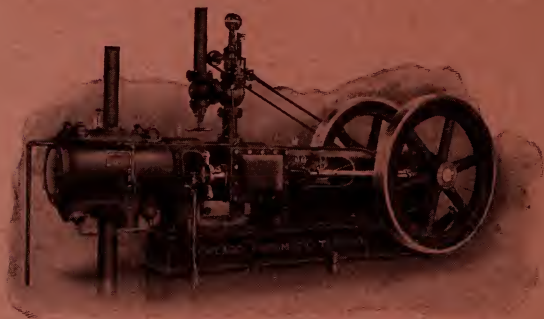


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AGREEMENT AND WORKING RULES

BETWEEN THE

CARPENTERS' AND BUILDERS' ASSOCIATION AND THE
CARPENTERS' EXECUTIVE COUNCIL OF CHICAGO
AND COOK COUNTY.

THIS AGREEMENT,

made this 1st day of April, 1905, by and between the Carpenters' and Builders' Association of Chicago (employers), parties of the first part, and the Carpenters' Executive Council, party of the second part, for the purpose of preventing strikes and lockouts and facilitating a peaceful adjustment of all grievances and disputes which may, from time to time, arise between the employer and mechanic, in the carpenter trade in Chicago and Cook County.

II. NO OUTSIDE INTERFERENCE.

Witnesseth: That all parties to this agreement hereby covenant and agree that they will not tolerate nor recognize any right of any other Association, Union, Council, or body of men, not directly parties hereto, to interfere in any way with the carrying out of this agreement, and that they will use all lawful means to compel their members to comply with the arbitration agreement and working rules as jointly agreed upon and adopted.

III. PRINCIPLES UPON WHICH THIS AGREEMENT IS BASED.

All parties hereto this day hereby adopt the following principles as an absolute basis for their joint working rules, and to govern the action of the Joint Arbitration Board as hereinafter provided for.

1. That there shall be no limitation as to the amount of work a man shall perform during his working day.
2. That there shall be no restriction in the use of machinery or tools.
3. That there shall be no restriction of the use of any manufactured material, except prison made.
4. That no person shall have the right to interfere with the workmen during working hours.
5. That the use of apprentices shall not be prohibited.
6. That the foreman shall be the agent of the employer.
7. That all workmen are at liberty to work for whomsoever they see fit.

8. That all employers are at liberty to employ and discharge whomsoever they see fit.

IV. HOURS.

Eight hours shall constitute a day's work, between the hours of 8 a. m. and 5 p. m. except on Saturday, when work shall stop at 12 o'clock noon, with 4 hours' pay for that day.

V. OVERTIME AND HOLIDAYS.

Time and one-half shall be paid for all work done after the regular work day, and there shall be an intermission of not less than 30 minutes before resuming work. Double time shall be paid for all work done from 12.30 o'clock Saturday noon until Monday morning, 7:30 a. m., and the following five holidays (or days celebrated as such): Decoration Day, Fourth of July, Thanksgiving Day, Christmas Day and New Year's Day. Sunday and holiday time to cover any time during the 24 hours of said calendar day.

VI. EXTRA SHIFTS.

Where work is carried on with two or more shifts, the second and third shift shall receive 8 hours' pay for 7 hours' work. Any less than 7 hours to be considered overtime. The same men shall not work on more than one shift. Double time for all Sundays and above-mentioned holidays.

VII. LABOR DAY.

No work shall be done on Labor Day, except by consent of the two Presidents.

VIII. WAGES.

The minimum rate of wages to be paid from April 1st, 1905, until April 1st, 1906, shall be 50 cents per hour, payable in currency of the United States. The party of the second part shall receive the wages agreed upon by The Joint Arbitration Board in this trade under all circumstances.

And it is further agreed by the parties of the first part to hire no one in this trade, except to whom he or they shall pay the wages agreed upon by the Joint Arbitration Board.

IX. PAY DAY.

It is agreed that the Journeymen shall be paid every week, on a regular pay day, and not later than Wednesday. The wages are to be paid on the work in full up to and including the Saturday night preceding pay day, and not later than quitting time. When the workman quits of his own accord he shall receive his pay on the next regular pay day. When a man is discharged or laid off, if he so requests, he shall be paid either in cash on the work or given a time check, with one hour extra added for traveling time, said extra hour to be added by the person giving the time check, which shall be paid upon presentation at the office of the employer, and if it is not paid promptly upon his arrival at the office, and if he remains there during working hours, he shall be paid the minimum wages for such waiting time, Sunday and Holiday time excepted.

X. PIECE WORK.

No member of the parties of the first part shall sublet, piece or lump out their Carpenter work, neither shall any Journeyman who is a member of the party of the second part be permitted to take piece or lump work in any shape or manner, nor work for any owner or contractor who does piece or lump work, whether he be a member of the party of the first part or not. Contracting firms having two or more members, then only one of them shall use tools on any job.

XI. THE FOLLOWING ITEMS OF CARPENTER WORK ARE COVERED BY THIS AGREEMENT.

The furnishing of all material (by the party of the first part) (by the party of the second part), the labor required for all carpenter work in the erection and completion of any and all buildings and jobs. The erection of all staging and scaffolding (except that built by Masons with horses and planks), all false woodwork, all floors, wood centers for all arches, sidewalks and building protections, boxing for all concrete foundations, walls and piers and all woodwork in connection with other trades; cutting for butts, fitting and hanging of transoms and doors, including wardrobe and china closet doors, boring for locks, cutting for letter plates, coping and mitering base, chair rail and plate rails; cutting and nailing in all stops, building and erecting all stairs, fitting and applying all hardware.

XII. WORKING WITH NON-UNION MEN.

The party of the second part shall not work with Carpenters, except they are affiliated with the Carpenters' Executive Council, and no member or members affiliated with the party of the second part shall leave his work because non-union men in any other line of work or trade are employed on the buildings or job, or because non-union men in any other line or trade are employed on any other building or job. No member or parties to this agreement shall work on any buildings or job where laborers or any other trade are permitted to do Carpenter work of any kind.

In case of any violation of this agreement the same shall be reported at once to the Presidents of the Association and Union or their representative parties hereto, and in case the Presidents or their representatives of the parties hereto cannot secure a settlement of such violations within twenty-four hours work shall stop.

XIII. FOREMAN.

The foreman shall be a Union man, a competent mechanic in his trade, and subject to the decisions of the Joint Arbitration Board.

XIV. STEWARD.

Wherever two or more Journeymen, members of the second party, are working together, a Steward shall be selected by them from their number to represent them, who shall, while acting

as Steward, be subject to the rules and decisions of the Joint Arbitration Board. No salary shall be paid to a journeyman for acting as Steward. He shall not leave his work or interfere with the working men during working hours and shall perform his duties as Steward so as not to interfere with his duty to his employer. He shall always, while at work, carry a copy of the working rules with him and shall report all violations of this agreement.

XV. APPRENTICES.

Each employer shall have the right to teach his trade to apprentices, and the said apprentices shall serve three (3) years, as prescribed in the apprentice rules to be agreed upon by the Joint Arbitration Board, and shall be subject to control of the said Joint Arbitration Board. No apprentice shall be over 21 years of age.

XVI. ARBITRATION.

All parties hereto agree that any and all disputes between any member or members of the Employers' Association on the one side and any member or members of the Union on the other side, during the life of this agreement, shall be settled by arbitration, in the manner hereinafter provided for, and for that purpose all parties hereto agree that they will, at their annual election each year, elect an Arbitration Committee to serve one year (except the Carpenters' and Builders' Association of Chicago (see Section 3 of Article 5 of their Constitution), and until their successors are elected and qualified. In case of death, expulsion, removal or disqualification of a member or members of the Arbitration Committee, such vacancy shall be filled by the Association or Union at its next regular meeting.

The Arbitration Committee of each of the two parties hereto shall consist as follows: Five members from the Carpenters' and Builders' Association and five from the Carpenters' Executive Council, and they shall meet not later than the fourth Thursday of January each year in joint session, when they shall organize a Joint Arbitration Board by electing a President, Secretary, Treasurer and Umpire.

The Joint Arbitration Board shall have full power to enforce this agreement, entered into between the parties hereto, and enforce all lawful working rules governing both parties. When a dispute or grievance arises between a journeyman and an employer (parties hereto), or an apprentice and his employer, the question at issue shall be submitted in writing to the Presidents of the two organizations, and upon their failure to agree and settle it, or if one party to the dispute is dissatisfied with the decision, it shall be submitted to the Joint Arbitration Board at their next regular meeting. If the Joint Arbitration Board is unable to agree, the Umpire shall be requested to sit with them, and after he has heard the evidence cast the deciding vote. All verdicts shall be decided by a roll call, be rendered in writing and be final and binding on all the parties to the dispute.

XVII. WHO ARE QUALIFIED TO SERVE ON THE ARBITRATION COMMITTEE.

No member who is not actively engaged in the trade, or who holds a public office, either elective or appointive, under the municipal, county, state or national government, shall be eligible to sit as the representative in this trade Arbitration Board, and any member shall become disqualified to sit as a member of this trade Joint Arbitration Board and cease to be a member thereof immediately upon his election or appointment to any public office or employment.

XVIII. UMPIRE.

An Umpire shall be selected who is in no wise affiliated or identified with the building industry, and who is not an employee or employer of labor nor an incumbent of a political office.

XIX. MEETINGS.

The Joint Arbitration Board shall meet to transact routine business the first Thursday in each month, but special meetings shall be called on three days' notice by the Presidents of the two organizations or upon application of three members of the Joint Arbitration Board.

XX. FINES FOR NON-ATTENDANCE AS WITNESS.

The Joint Arbitration Board has the right to summon any member or members affiliated with any of the parties hereto, against whom complaints are lodged for breaking this agreement or working rules, and also appear as witness. The summons shall be handed to the President of the Association or Union to which the member belongs and he shall cause the member or members to be notified to appear before the Joint Arbitration Board on a date set. Failure to appear when notified, except (in the opinion of the Board) valid excuse is given, shall subject a member to a fine of twenty-five (\$25) dollars for the first offense, fifty (\$50) dollars for the second and suspension for the third.

XXI. SALARIES.

The salary of each representative on the Joint Arbitration Board shall be paid by the Association or Union he represents.

XXII. QUORUM.

Seven (7) members present shall constitute a quorum in the Joint Arbitration Board. If one or more members of the Arbitration Committee of either of the parties to this agreement be absent, the other Arbitration Committee shall cast an equal number of votes on a division in the Joint Arbitration Board.

XXIII. FINES AS RESULT OF ARBITRATION.

Any member or members affiliated with either of the two parties hereto violating any part of the agreement or working rules established by the Joint Arbitration Board, shall be subject to a fine of from ten (\$10) dollars to two hundred (\$200) dollars.

Such fines shall be imposed by the Association or Union in accordance with the rules and laws of the Association or Union parties hereto. And all such fines shall be collected within thirty (30) days after the date of levying of the fines.

And all fines collected shall be paid to the Association or Union to which the member or members belong.

In no case shall the parties hereto be permitted to employ or work for any one who has been found guilty of violating any part of this article.

XXIV. RULES FOR ARBITRATION BOARD AND PARTIES HERETO.

All disputes arbitrated under this agreement must be settled by the Joint Arbitration Board, and in conformity with the principles and agreements herein contained, and nothing herein can be changed by the Joint Arbitration Board. No By-laws or Rules conflicting with this agreement or working rules agreed upon shall be passed or enforced by either parties hereto against any of its affiliated members in good standing.

XXV. APPRENTICE RULES.

Sec. 1. Apprentices shall be under the jurisdiction of the Joint Arbitration Board, which has the authority to control them and protect their interests subject to approved indentures, entered into with their employers, and the rules adopted by the Joint Board.

Sec. 2. The applicant for apprenticeship shall not be more than seventeen years of age at the time of making application.

Sec. 3. The contractor taking an apprentice shall engage to keep him at work in the trade for nine consecutive months in each year, and see that during the remaining three months of the year the apprentice attends school during January, February and March, and a certificate of attendance from the Principal of the school attended will be accepted by the Joint Arbitration Board as a compliance with this requirement, before he is allowed to work, during the coming year.

Sec. 4. A contractor taking an apprentice shall keep him steadily at work or school; failing to do so, he shall pay him the same as though he had worked for him.

Sec. 5. In case an apprentice at the end of his term of four years, for want of proper instruction in his trade, is not a proficient workman, and if, after a thorough investigation, the Joint Arbitration Board finds that the contractor to whom he was apprenticed did not give him proper instructions, and an opportunity to learn his trade, he may be required to serve another year, with whom he and the Joint Arbitration Board may determine, and at a rate of wages (less than the minimum) in his trade they may determine, and the difference between said rate and the minimum scale in his trade shall be paid him through the Joint Arbitration Board by the contractor to whom he was apprenticed.

Sec. 6. A contractor entitled to an apprentice may take one on trial for two weeks, provided that applicant holds a permit

from the Joint Arbitration Board, and if, after said trial, conditions are satisfactory to both parties they will be required to sign indentures agreeable to the Joint Arbitration Board. If not satisfactory the contractor is not bound to indenture him, but he will be required to pay the boy six dollars per week for the two weeks. No boy will be allowed a trial with more than two contractors, or a contractor with more than two boys consecutively.

Sec. 7. The rate of wages of an apprentice at the date of indenture shall in no case be less than \$260.00 for the first year, \$300.00 for the second year, \$350.00 for the third year and \$400 for the fourth year, payable in lawful money of the United States, and shall be paid in fifty-two weekly installments.

Sec. 8. The issuing of permits for an apprentice to work for another contractor when the one to whom he is apprenticed has no work, shall be left to the Joint Arbitration Board.

Sec. 9. All apprentices indentured to members of the Carpenters' and Builders' Association of Chicago shall report to the Joint Arbitration Board at its meetings on the first Thursday of January, April, July and October of each year.

Sec. 10. The employer shall not have more than two apprentices at any one time.

Sec. 11. The foregoing rules became effective on and after December 21, 1901.

Approved as amended by the Joint Arbitration Board of 1905.

ABRAHAM EDMUNDS, President.
J. W. QUAYLE, Secretary.

XXVI. TERMINATION.

It is agreed by the parties that this agreement shall be in force between the parties hereto until April 1, 1906.

On behalf of the parties of the first part. The Carpenters' and Builders' Association of Chicago:

John Rameke, President;
Alex. Findlay,
Louis A. Ashbick,
Abraham Edmunds,
J. L. Carnegie.

On behalf of the parties of the second part. The Carpenters' Executive Council of Chicago and Cook County:

James Kirby, President;
Charles G. Grassel,
James Haywood,
William Loos,
John Brittain, Secretary,

Telephones Main 1735

Residence Austin 1014

Automatic 3242

FRANK E. DOHERTY

CARPENTER AND GENERAL CONTRACTOR

APPRAISING AND REPAIRING OF FIRE LOSSES

A Specialty

BUILDER OF COAL PLANTS AND HEAVY

516 CHAMBER OF COMMERCE

CHICAGO

E. P. Strandberg Company

Room 748, 159 La Salle Street - - CHICAGO

GENERAL CONTRACTORS

..... AND BUILDERS

MASON AND CARPENTER WORK A SPECIALTY

TELEPHONE CENTRAL 5221

TELEPHONE MAIN 808

J. H. Clark

Wholesale and Retail Dealer in

Builders' Hardware

AND MECHANICS' TOOLS

155 Lake Street - - CHICAGO

HENRY GILSDORFF & SONS

Carpenters and General Contractors

Room 100, 163 Randolph Street

CHICAGO

Telephone Main 130

Shop, 483 La Salle Ave., (Rear)

Building Ordinance

Passed by the City Council of the City of Chicago, March 13,
1905.

Be it ordained by the City Council of the City of Chicago:

SEC. 1. DEPARTMENT OF BUILDINGS ESTABLISHED— OFFICERS.

There is hereby established an executive department of the municipal government of the city which shall be known as the Department of Buildings, and shall embrace a Commissioner of Buildings, a Deputy Commissioner of Buildings, an Assistant Deputy Commissioner of Buildings, a Civil Engineer, a Secretary to the Commissioner, a Chief Building Inspector, and such Inspectors of Elevators, Inspectors of Stand Pipes and Fire Escapes, and Inspectors of Buildings, and such other assistants and employes as the City Council may by ordinance provide.

SEC. 2. BUILDING COMMISSIONER—OFFICE CREATED— APPOINTMENT.

There is hereby created the office of Commissioner of Buildings. He shall be the head of said Department of Buildings, and shall be an experienced architect, civil engineer, builder or competent building mechanic, and shall have been engaged in the city as an architect, civil engineer, builder or building mechanic for a period of ten years, and during his term of office as Commissioner of Buildings he shall not be engaged in any other business.

He shall be appointed by the Mayor, by and with the advice and consent of the City Council.

His salary shall be five thousand (\$5,000) dollars per year.

SEC. 3. BOND.

The Commissioner of Buildings before entering upon the duties of his office shall execute a bond to the city in the sum of twenty-five thousand (\$25,000) dollars, with such sureties as the City Council shall approve, conditioned for the faithful performance of the duties of his office.

SEC. 4. POWERS—APPOINTMENT OF SUBORDINATES— BONDS.

He shall have the management and control of all matters and things pertaining to the Department of Buildings, and shall appoint, according to law, all subordinate officers and

assistants in his department and may remove them according to law. All subordinate officers, assistants, clerks and employes in said Department shall be subject to such rules and regulations as shall be prescribed from time to time by said Commissioner.

SEC. 5. ORDINANCES—ENFORCEMENT OF.

It shall be the duty of said Commissioner to enforce all ordinances relating to the erection, construction, alteration, repair, removal or the safety of buildings.

If he shall be in doubt concerning the legal construction of such ordinances, or any part thereof, he shall secure the opinion of the Corporation Counsel thereon.

SEC. 6. PRECAUTIONS IN BEHALF OF PUBLIC SAFETY —MAY REQUIRE REPAIR OR ALTERATION IN SUCH CASES.

It shall be the duty of the Commissioner of Buildings, when any citizen represents that ashes or combustible materials are kept in any place in the city in an insecure manner, or that the doors, stairways, corridors, exits or fire escapes in any factory or workshop or other place of employment are insufficient for the escape of employes in case of fire, panic or accident, or do not comply with the provisions of this ordinance; or that the funnels, flues, fire boxes or heating apparatus in any building in the city are insecure or dangerous, or that any part of any building in the city is in an unsafe or dangerous condition, or in any wise in contravention of this ordinance, to make an examination of such place or building, and if such representation is found to be true said Commissioner shall give notice in writing to the owner, occupant, lessee or person in possession, charge or control of such place or building to make such changes, alterations or repairs as public safety or the ordinances of the city may require; and it shall be unlawful to continue the use of such building until the changes, alterations or repairs found necessary by the Commissioner of Buildings to make such building or part thereof safe or to bring it into compliance with this ordinance, shall have been made.

SEC. 7. INSPECTION OF ALL BUILDINGS IN GENERAL USE—MUST REPORT ALL UNSAFE CONDITIONS.

The Commissioner of Buildings shall inspect or cause to be inspected all public school buildings, public halls, churches, theaters and all buildings used either for manufacturing or commercial purposes, also all hotels, apartment houses and other buildings occupied by large numbers of people, for the purpose of determining the safety of such buildings, or any parts or appliances or equipment thereof; sufficiency of their doors, passageways, aisles, stairways, corridors, exits or fire escapes and generally their facilities for egress in case of fire or other accident, and the strength of their floors, and shall make returns of all violations of the several provisions of this ordinance to the Law Department for prosecution.

SEC. 8. INTERPRETATION OF THIS ORDINANCE.

The Commissioner of Buildings shall have full power to pass upon any question arising under the provisions of this ordinance, subject to the conditions, modifications and limitations contained therein.

SEC. 9. INSPECTION OF ELEVATORS—POWER TO STOP USE OF SAME.

The Commissioner of Buildings shall have power to prohibit and stop the use of any passenger or freight elevator when any Inspector of Elevators shall report to him that such elevator or the hoistway in which it is used is in a dangerous or unsafe condition. And such prohibition of use shall continue in force until such hoistway or elevator, or both, shall have been put in a safe condition, and certified to be safe, after a proper inspection thereof by the Inspector of Elevators.

SEC. 10. BUILDINGS FOUND IN UNSAFE CONDITION..
NOTICE TO OWNER—AUTHORITY OF COMMISSIONER.

If the Commissioner of Buildings shall find in the city any building or structure or part thereof in such an unsafe condition as to endanger life, but so that, by the immediate application of precautionary measures such danger may be averted, he shall have authority, and it shall be his duty to forthwith notify in writing the owner, agent or person in possession, charge or control of such building or structure or part thereof to adopt and put into effect such precautionary measures as may be necessary or advisable in order to place such building or structure or part thereof in a safe condition. Such notice shall state briefly the nature of the work required to be done, and said Commissioner shall specify in such notice a time within which the work required to be done shall be completed by the person notified, such time to be fixed by said Commissioner upon taking into consideration the condition of such building or structure, or part thereof, and the danger to life or property which may result from its unsafe condition.

If the owner, agent or person in possession, charge or control of such building or structure, or part thereof, when so notified, shall fail, neglect or refuse to place such building or structure, or part thereof, in a safe condition, and to adopt such precautionary measures as shall have been specified by said Commissioner within the time specified in such notice, in such case, at the expiration of such time, it shall be the duty of said Commissioner to proceed forthwith to do, or cause to be done, any and all work necessary to place such building, or structure, or part thereof, in a safe condition.

If the said Commissioner shall be unable to find the owner of such building, structure, or part thereof, or any agent or person in possession, charge or control thereof, upon whom such notice may be served, he shall place or cause to be placed the notice herein provided for, upon such building at or near its principal entrance, and if, at the expiration of the time specified

in such notice for the completion of the work required to be done, the terms of such notice shall not have been complied with, it shall be the duty of the Commissioner to thereupon proceed and do such work in the same manner as has hereinbefore been provided in cases of refusal, neglect or failure on the part of the owner, agent or person in possession, charge or control of any such building, structure, or part thereof, when so notified.

If, in accordance with the provisions of this section, the work of placing any building, structure, or part thereof in a safe condition shall devolve upon the said Commissioner, and it shall appear that such building, structure or part thereof is in such a condition as not to warrant the expenditure thereon of a sumcient sum of money to make such repairs or to do such work as is necessary to put it in a safe condition, the said Commissioner shall have authority to tear down or destroy such building or structure or part thereof and the expense of tearing down and destroying any such building or structure or part thereof and the expense of making any repairs or doing any work thereon shall be charged to the person owning or in possession, charge or control of such building or structure or part thereof, and the Commissioner shall recover or cause to be recovered from such owner or person in possession, charge or control the cost to the city of doing such work by some appropriate proceeding.

SEC. 11. BUILDING OR PART OF BUILDING CONSTRUCTED IN VIOLATION OF ORDINANCE—AUTHORITY OF COMMISSIONER TO TEAR DOWN.

If it shall be found that any building or structure or part thereof is being or shall have been constructed or built in violation of any of the provisions of this ordinance, the Commissioner of Buildings shall forthwith notify the owner, agent, superintendent or architect of, or the contractor for, such building, or structure, or part thereof, of the fact that such building, or structure, or part thereof, has been, or is being, constructed or erected contrary to the provisions of this ordinance, and shall specify briefly in such notice in what manner the provisions of this ordinance, or any of them, have been violated, and shall require the person so notified to forthwith make such building, structure, or part thereof, conform to and comply with the provisions of this ordinance, specifying in such notice the time within which such work shall be done.

If, at the expiration of the time set forth in such notice, the person so notified shall have refused, neglected or failed to comply with the request made in such notice and to have such building or structure, or part thereof, concerning which notice was sent, changed so as to conform to and comply with the provisions of this ordinance, the Commissioner of Buildings shall have the authority, and it shall be his duty, to proceed forthwith to tear down or cause to be torn down such building or structure, or such part thereof as shall or may have been

erected and constructed in violation of the provisions or any of the provisions of this ordinance, and the cost of such work shall be charged to and recovered from the owner of such building or structure or from the person for whom such building or structure is being erected, by appropriate proceedings.

SEC. 12. MAY DIRECT FIRE DEPARTMENT TO REMOVE.

The Commissioner of Buildings shall also have authority to direct the Fire Department, after written notice has been served upon the owner, lessee, occupant, agent or person in possession, charge or control, personally, to tear down any defective or dangerous wall or any building or any part thereof which may be constructed in violation of the terms of this ordinance. In case of the destruction, or partial destruction, of buildings by fire or by the action of the elements, when any department of the city government, pursuant to the ordinances of the city, shall make any outlay of money or incur any liability for the payment of any expense on behalf of the city in an effort to preserve or prevent the destruction of any such building or buildings, or for the preservation of the life or health of its citizens, it shall be the duty of the Commissioner of Buildings to ascertain the amount of such outlay or expenditure and present a bill therefor to the owner or owners of any such building or buildings, or his or their agent or agents, and it shall be the duty of the said Commissioner of Buildings to refuse to issue a permit for the reconstruction, alteration or repair of any such building or buildings by such owner or owners until such outlay or expenditure shall be repaid to the city by the owner or owners of such building or buildings so totally or partially destroyed in the manner aforesaid. Said Commissioner shall also proceed forthwith to collect from such owner or owners, by appropriate proceedings, the amount of such bill.

SEC. 13. MAY MAKE RULES FOR CONSTRUCTION OF BUILDINGS AND CONTROL OF EMPLOYES.

The Commissioner of Buildings shall institute such measures and prescribe such rules and regulations for the control and guidance of his subordinate officers and employes as shall secure the careful inspection of all buildings while in process of construction, alteration, repair or removal and the strict enforcement of the several provisions of this ordinance.

SEC. 14. MAY STOP CONSTRUCTION.

Said Commissioner shall have power to stop the construction of any building or the making of any alterations or repairs of any buildings within said city when the same is being done in a reckless or careless manner or in violation of any ordinance, and to order, in writing or by parole, any and all persons in any way or manner whatever engaged in so constructing, altering or repairing any such building, to stop and desist therefrom.

SEC. 15. ARBITRATION APPEAL FROM DECISION.

In cases where discretionary power to estimate damage to frame buildings is given the Commissioner of Buildings, as also

in questions relating to the security or insecurity of any building or buildings, or parts thereof, and in all other cases where discretionary powers are, by ordinance, given to the Commissioner of Buildings, an appeal to arbitration shall be allowed to parties believing themselves injured or wronged by the decisions of the Commissioner of Buildings, as follows, to-wit:

SEC. 16. APPEAL—LIMIT OF TIME OF.

Any person wishing to make such appeal shall do so within five days after written notice of the decision or order of the Commissioner of Buildings has been given him. An appeal made later than five days after the serving of the notice of the Commissioner of Buildings shall not entitle the appellant to an arbitration. The request for arbitration shall be in writing and shall state the object of the proposed arbitration and the name of the person who is to represent the appellant as arbitrator.

SEC. 17. APPEAL—COST OF.

The Commissioner of Buildings shall thereupon state to the appellant the cost of such arbitration, and and such appellant shall, within twenty-four hours from the time of filing the original request for arbitration, deposit with the Commissioner of Buildings the sum of money required for defraying the expenses of the same, which sum shall in each case be fixed by said Commissioner in proportion to the difficulty and importance of the case, but shall in no case be more than the cost of similar service in the course of ordinary business of private individuals or corporations. As soon as such sum of money shall have been deposited with him the Commissioner of Buildings shall appoint an arbitrator to represent the city, and the two arbitrators thus appointed shall, if they cannot agree, select a third arbitrator, and the decision of any two of these arbitrators shall, after investigation of the matter in question, be final and binding on the appellant as well as upon the city.

SEC. 18. ARBITRATORS TO TAKE OATH—POWER TO EXAMINE WITNESSES.

The arbitrators shall themselves, before entering upon the discharge of their duties, be placed under oath to the effect that they are unprejudiced as to the matter in question and that they will faithfully discharge the duties of their position. They shall have the power to call witnesses and place them under oath, and their decision or award shall be rendered in writing both to the Commissioner of Buildings and to the appellant from his decision. The fee deposited by the appellant with the Commissioner of Buildings shall be paid by the Commissioner of Buildings to the arbitrators upon the rendering of their report and shall be in full of all costs incident to the arbitration; but should the decision of said board of arbitration be rendered against the Commissioner of Buildings, then the money deposited by the aforesaid appellant shall be returned to him, and the entire cost of such arbitration shall be paid by the city.

SEC. 19. IN URGENT CASES—COMMISSIONER'S POWER FINAL.

Whenever the decision of the Commissioner of Buildings upon the safety of any building or any part thereof is made in a case so urgent that failure to properly carry out his orders to demolish or strengthen such building or part thereof may endanger life and limb, the decision and order of the Commissioner of Buildings shall be absolute and final.

SEC. 20. DUTY OF POLICE TO ASSIST COMMISSIONER IN ENFORCING PROVISIONS OF THIS ORDINANCE.

Whenever it shall be necessary, in the opinion of the Commissioner of Buildings to call upon the Department of Police for aid or assistance in carrying out or enforcing any of the provisions of this ordinance, he shall have the authority so to do, and it shall be the duty of the Department of Police, or of any member of said Department, when called upon by said Commissioner, to act according to the instructions of, and to perform such duties as may be required by, said Commissioner in order to enforce or put into effect the provisions of this ordinance.

SEC. 21. CERTIFICATES—NOTICES.

The Commissioner of Buildings shall sign or cause to be signed all certificates and notices required to be issued from said Department and keep a record of the same, and issue or cause to be issued all permits authorized herein.

SEC. 22. MUST KEEP A REGISTER.

Said Commissioner of Buildings shall keep in proper books for that purpose a register of all transactions of the Department of Buildings, which such books shall be open to the inspection of the Mayor, Comptroller, Superintendent of Police, Fire Marshal and members of the City Council at all times.

SEC. 23. MUST KEEP ACCOUNT OF FEES PAID.

Said Commissioner shall keep, in proper books for that purpose, an accurate account of all fees paid, giving the name of the person paying same, date of payment and amount of each such fee.

SEC. 24. MUST MAKE ANNUAL REPORTS TO CITY COUNCIL, WITH ESTIMATES.

The Commissioner of Buildings shall annually, on or before the first day of February, in each year, prepare and present to the City Council a report showing the receipts and expenditures and entire work of his Department during the previous fiscal year, and he shall at the same time send to the Comptroller a full and comprehensive statement of all matters pertaining to his Department, together with an estimate in detail of the appropriations required by the Department during the current fiscal year.

SEC. 25. DEPUTY COMMISSIONER OF BUILDINGS.

There is hereby created the office of Deputy Commissioner

of Buildings. He shall be appointed by the Commissioner of Buildings according to law. Whenever the Commissioner of Buildings shall make requisition upon the Civil Service Commission of the city for a person to fill the office of Deputy Commissioner of Buildings he shall notify the Civil Service Commission that the person certified to fill said office should be a competent civil engineer, architect or builder.

SEC. 26. DUTIES.

Said Deputy Commissioners shall pass upon all questions relating to the strength and durability of buildings; shall examine and approve all plans before a building permit is issued for the construction of any building or structure; shall supervise and have charge of all books and records and the various Inspectors employed in the Department of Buildings; shall receive, examine and file all reports made by them, and shall, under the direction and supervision of the Commissioner of Buildings, assign to such Inspectors the work they are to perform. He shall have a book or books in which shall be recorded the location and character of every building for which a permit is issued and a copy of every report of inspection made for such building, so arranged that the full history of the various inspections of the building shall appear therein in consecutive order, with the name of each Inspector making the inspection thereof and the date of his report. He shall cause to be kept a record of all complaints of violations of the building ordinances; shall report the same to the Commissioner of Buildings and shall cause all such complaints to be investigated. He shall act as Commissioner of Buildings in the absence of the Commissioner of Buildings from his office, and while so acting shall discharge all the duties and possess all the powers invested in or imposed upon the Commissioner of Buildings.

SEC. 27. BOND.

The Deputy Commissioner of Buildings, before entering upon the duties of his office, shall execute a bond to the city in the sum of ten thousand (\$10,000) dollars, with such sureties as the City Council shall approve, conditioned for the faithful performance of the duties of his office.

SEC. 28. ASSISTANT DEPUTY COMMISSIONER OF BUILDINGS.

There is hereby created the office of Assistant Deputy Commissioner of Buildings. He shall be appointed by the Commissioner of Buildings according to law. Whenever the Commissioner of Buildings shall make requisition upon the Civil Service Commission of the city for a person to fill the office of Assistant Deputy Commissioner of Buildings he shall notify the Civil Service Commission that the person certified to fill said office should be a competent civil engineer, architect or builder.

The Assistant Deputy Commissioner of buildings shall, under the direction of the Commissioner of Buildings or the Deputy

Commissioner of Buildings, assist and aid the Deputy Commissioner in the performance of his duties.

SEC. 29. BOND.

The Assistant Deputy Commissioner of Buildings, before entering upon the duties of his office, shall execute a bond to the city in the sum of five thousand (\$5,000) dollars, with such sureties as the City Council shall approve, conditioned for the faithful performance of the duties of his office.

SEC. 30. SECRETARY—DUTIES.

The Commissioner of Buildings shall appoint a Secretary, according to law, whose duty it shall be to preserve and keep, under the supervision and direction of the Deputy Commissioner of Buildings, all books, records and papers belonging to said office or which are required by law to be filed therein. The Secretary shall deliver to the City Council and to the respective departments all communications from said Commissioner, in writing, and perform such services as may be required by said Commissioner or Deputy Commissioner of Buildings.

SEC. 31. CHIEF BUILDING INSPECTOR.

There is hereby created the office of Chief Building Inspector. He shall be appointed by the Commissioner of Buildings according to law. Whenever the Commissioner of Buildings shall make requisition upon the Civil Service Commission of the city for a person to fill the office of Chief Building Inspector he shall notify the Civil Service Commission that the person certified to fill said office should be a competent civil engineer, architect or builder.

The Chief Building Inspector shall, under the direction of the Commissioner of Buildings, inspect and examine special cases of violations of the building ordinances, damages to buildings by fire, the elements or accident of any kind whatsoever, and shall perform such other duties as may be required by the Commissioner of Buildings or the Deputy Commissioner of Buildings.

SEC. 32. BOND.

The Chief Building Inspector, before entering upon the duties of his office, shall execute a bond to the city in the sum of five thousand (\$5,000) dollars, with such sureties as the city Council shall approve, conditioned for the faithful performance of the duties of his office.

SEC. 33. INSPECTORS—NOT TO ENGAGE IN BUSINESS.

The Inspectors of Buildings, after their appointment to office, shall not be engaged in any other business or vocation.

SEC. 34. INSPECTORS—DUTIES—REPORTS—HOW MADE.

The said Inspectors shall, under the direction of the Commissioner of Buildings, examine all buildings in the course of erection, alteration, repair or removal throughout the city at least once a week, or as often as may be required for securing efficient supervision, and shall make written reports to said Commis-

sioner as to all violations of any ordinance of the city which the Department of Buildings is required to enforce, together with the street and number where such violations are found, the names of the owner, agent, lessee, occupant, architect, contractor and master mechanic, and all other matters relative thereto as far as they can ascertain them.

SEC. 35. REPORT—MUST FILE DAILY.

The Inspectors of Buildings shall file daily reports of their work of inspection, which shall be entered in the books to be kept for that purpose and which shall be open to official inspection at all times.

SEC. 36. INSPECTION—RECORD OF—HOW MADE.

The said Inspectors shall examine all buildings and walls reported dangerous or damaged by fire or accident and make a record of such examinations, with the name of the street and number of the building and of the names of the owner, agent, lessee and occupant thereof.

SEC. 37. ALTERATION, ENLARGEMENT OR RAISING—INSPECTION OF.

The Inspectors of Buildings shall examine all buildings for which an application to raise, enlarge or alter has been made, and shall make a written report upon the condition of the same to the Commissioner of Buildings before the permit is granted.

SEC. 38. DUTIES—OTHER.

Said Inspectors shall perform such other duties as may be required of them by said Commissioner of Buildings, the rules and regulations of the Department of Buildings or the ordinances of the city.

SEC. 39. POWERS—OTHER.

The Commissioner and Deputy Commissioner of Buildings, as well as the Inspectors of Buildings and of Elevators, are empowered to enter any building, whether completed or in process of erection, for the purpose of determining whether the same has been or is being constructed in accordance with the terms of this ordinance, and it shall not be lawful to exclude them from such buildings.

SEC. 40. ELEVATOR INSPECTORS—NOT TO ENGAGE IN BUSINESS—DUTIES.

The Inspectors of Elevators shall not, after their appointment to office, be employed or engaged in any other business or vocation.

The Inspectors of Elevators shall perform such duties as may be required of them by the Commissioner of Buildings, the rules and regulations of the Department of Buildings or the ordinances of the city.

PERMITS, PLANS AND FEES.**SEC. 41. PERMITS—WHEN REQUIRED.**

Before proceeding with the erection, enlargement, alteration, repair or removal of any building in the city a permit for such erection, enlargement, alteration, repair or removal shall first be obtained by the owner or his agent from the Commissioner of Buildings, and it shall be unlawful to proceed with the erection, enlargement, alteration, repair or removal of any building or of any structural part thereof within the city unless such permit shall first have been obtained from the Commissioner of Buildings.

SEC. 42. PERMITS—LIMITATION OF TIME FOR.

If, after a permit for the erection, enlargement, alteration, repair or removal of a building shall have been granted, the operations called for by the said permit shall not be begun within six months after the date thereof, or if such operations are not completed within a reasonable time, then such permit shall be void, and no operations thereunder shall be begun or completed until a new permit shall be taken out by the owner or his agent and fees as herein fixed for the original permit shall be paid for such new permit.

SEC. 43. PERMITS—APPLICATION FOR—HOW MADE—HOW RECORDED—STAMPED PLANS—HOW CARED FOR—RETURN OF SAME.

Application for such permits shall be made by the owner or his agent to the Commissioner of Buildings. When such application is made plans and specifications in conformity with the provisions of this ordinance shall be filed with the Commissioner of Buildings, who shall then issue a permit, and shall file such application, and shall apply to such plans and specifications an official stamp, stating that the drawings and specifications to which the same have been applied comply with the terms of this ordinance. The plans and specifications so stamped shall then be returned to such applicant. True copies of so much of such plans and specifications as may be required in the opinion of the Commissioner of Buildings to illustrate the features of construction and equipment of the building referred to, shall be filed with the Commissioner of Buildings and shall remain on file in his office until the completion or occupation of such building, after which such drawings and specifications shall be returned by the Commissioner of Buildings to the person by whom they have been deposited with him upon demand. It shall not be obligatory upon the Commissioner of Buildings to retain such drawings in his custody for more than three months after the completion or occupation of the building to which they relate. The stamping of any plan shall not be held to permit or to be an approval of any violation of any section of this ordinance.

SEC. 44. PLANS—ESSENTIALS OF.

All such plans and drawings shall be drawn to a scale of not

less than one-eighth of an inch to the foot, on paper or cloth, in ink, or by some process that will not fade or obliterate. All distances and dimensions shall be accurately figured, and drawings made explicit and complete, showing the entire sewerage and drain pipes and location of all plumbing fixtures within such building. Each set of plans presented shall be accompanied by a set of specifications describing all materials to be used in the proposed building, and both the plans and specifications shall be approved by the Commissioner of Buildings before a permit will be granted. No permit shall be granted or plans approved unless such plans shall be signed and sealed by a licensed architect, as provided in "An act to provide for the licensing of architects and regulating the practice of architecture as a profession in the State of Illinois," approved June 3, 1897. Provided, that permits may be granted for the erection of buildings of Class III, as hereinafter defined, if such building shall not be more than two stories in height and shall have a superficial area of not more than 1,250 square feet, outside dimensions, on plans approved by the Commissioner of Buildings, which plans need not be signed by a licensed architect.

SEC. 45. PLANS—ALTERATIONS UPON STAMPED PLANS NOT PERMITTED WITHOUT PERMISSION—CERTAIN ALTERATIONS EXCEPTED.

It shall be unlawful to erase, alter or modify any lines, figures or coloring contained upon such drawings or specifications so stamped by the Commissioner of Buildings or filed with him for reference. If, during the progress of the execution of such work, it is desired to deviate in any manner affecting the construction or other essentials of the building from the terms of the application, drawing or specification, notice of such intention to alter or deviate shall be given to the Commissioner of Buildings, and his written assent shall first be obtained before such alteration or deviation may be made. Alterations in buildings which do not involve any change in their structural parts or of their stairways, elevators, fire escapes or other means of communication or ingress or egress and that are not in violation of any of the provisions of this ordinance may be made without the permission of the Commissioner of Buildings.

SEC. 46. DEPOSIT WITH WATER DEPARTMENT—HOW MADE—INDEMNIFYING BOND.

Before the Commissioner of Buildings issues a permit as aforesaid he shall require evidence from the applicant that payment has been made to the Bureau of Water of the city for the water to be used or for a water meter for measuring all the water to be used in the construction of such building, under the regulation of the Bureau of Water. Such applicant shall produce evidence that he has filed with and had approved by the Commissioner of Public Works of the city an indemnifying bond protecting the city against any and all damage that may arise to the streets or alleys upon which such building abuts, and to the city and to any person in consequence or by reason

of the proposed operations to be authorized by such permit, or by reason of any obstruction or occupation of any street or sidewalk in and about such building operations.

SEC. 47. FEES FOR WATER USED.

The fees to be paid for water used in connection with the erection of buildings shall be as follows, to-wit:

For water to be used in connection therewith at the rate of five cents for every one thousand bricks, wall measure, used in the construction of a building.

At the rate of six cents for every one hundred cubic feet of rubble stone used in connection therewith.

At the rate of eight cents for every one hundred cubic feet of concrete used in connection therewith.

At the rate of fifteen cents for every one hundred yards of plastering used in connection therewith; and

At the rate of five cents for every one hundred cubic feet of hollow tile arch, partition or fireproof covering used in any building.

SEC. 48. PERMITS—COST OF.

The fees to be charged for building permits shall be as follows: For sheds not exceeding three hundred square feet in area, two dollars; for open shelter sheds, at the rate of fifty cents for each one thousand cubic feet or part thereof; but in no case shall a permit be issued for a less fee than two dollars.

For all buildings other than sheds and open shelter sheds, as hereinbefore described, the fee for the permit shall be at the rate of ten cents for every one thousand cubic feet or fractional part thereof contained therein, the cubic contents being measured to include every part of the building from the basement floor to the highest point of the roof and to include all bay-windows and other projections; but in no case shall any permit be issued for a less fee than two dollars.

SEC. 49. PERMIT FOR ALTERATIONS AND REPAIRS—COST OF.

The fee to be charged for permits issued for alterations and repairs in or to any building or structure shall be as follows:

Where such alteration or repair shall equal fifty per cent or more of the original building or structure to be altered or repaired, or of such part or portion of such building or structure to be altered or repaired, the same fees shall be charged as if such permit were for the construction of a new building.

Where such work of alteration or repair shall be less than fifty per cent of the original building or structure or of the part or portion to be altered or repaired, the fee to be charged for a permit for such work shall be half that charged for the issuance of a permit for new work.

SEC. 50. PERMIT FOR RAISING WOODEN BUILDING—COST OF.

The fee for a permit to raise a wooden building shall be one dollar.

SEC. 51. PERMITS FOR RAISING OR MOVING BUILDINGS OTHER THAN WOOD.

The fee for a permit to raise or move a building other than a wooden building shall be two (\$2) dollars for every twenty-five (25) feet, or fractional part thereof, of frontage, and when such building is to be moved from one location to another it shall be altered or reconstructed so as to conform to the ordinances governing the construction of such building at the time of moving the same.

SEC. 52. PERMIT—REVOCATION OF.

If work in, upon or about any building shall be conducted in violation of any of the provisions of this ordinance, it shall be the duty of the Commissioner of Buildings to revoke the permit for the building operation in connection with which such violation shall have taken place. It shall be unlawful, after the revocation of such permit, to proceed with such building operations unless such permit shall first have been reinstated or reissued by the Commissioner of Buildings. Before a permit so revoked may be lawfully reissued or reinstated the entire building and building site shall first be put into condition corresponding with the requirements of this ordinance, and any work or material applied to the same in violation of any of the provisions of this ordinance shall be first removed from such building.

CLASSIFICATION OF BUILDINGS.**SEC. 53. BUILDINGS—CLASSES OF.**

All buildings (other than sheds and shelter sheds as herein-after described) now existing or hereafter constructed, altered or enlarged within the city shall be classified as follows:

SEC. 54. CLASS I.

In Class I. shall be included every building used for the sale, storage or manufacture of merchandise, other than department stores, as described in Sections 60 and 70 of this ordinance, and all stables covering or occupying a ground area of over five hundred square feet.

SEC. 55. CLASS II.

In Class II. shall be included every office building, hospital and every building used for hotel purposes or for boarding or lodging-house purposes where such building so used for hotel or boarding or lodging-house purposes is occupied by twenty or more persons.

SEC. 56. CLASS III.

In Class III. shall be included every building used as a family residence, also every building used for stabling purposes where such building so used shall occupy a ground area of less than five hundred square feet.

SEC. 57. CLASS IV.

In Class IV. shall be included every building used as an as-

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sembly hall, whether such hall is used for the purpose of worship, instruction or entertainment, unless such building is used for any of the purposes for which buildings of Class V. or Class VIII. are used.

SEC. 58. CLASS V.

In Class V. shall be included every building which is used as a public theater where an admission fee is charged and in which movable scenery is used; provided, however, that public halls and club halls with a seating capacity of less than six hundred, although occasionally used for theatrical representations, shall not be construed to be public theaters within the meaning of the term as used in this section, notwithstanding the fact that movable scenery is used upon the stage thereof on such occasions, and such public halls and club halls shall not be considered as buildings of Class V. as herein defined. Such public halls and club halls shall be included in Class IV. as defined in Sections 57 and 400 of this ordinance.

SEC. 59. CLASS VI.

In Class VI. shall be included every tenement and apartment house; that is to say, any house or building or portion thereof which is used as a home or residence for two or more families living in separate apartments.

SEC. 60. CLASS VII.

In Class VII. shall be included all buildings used for the sale at retail of dry goods and other articles of general merchandise and commonly known and described as "department stores."

SEC. 61. CLASS VIII.

In Class VIII. shall be included every building used exclusively for school purposes.

SEC. 62. BUILDINGS USED FOR THE PURPOSES OF MORE THAN ONE CLASS.

Where any building is used for the purposes of two or more classes as herein specified and defined, such portion of any such building as is devoted to the uses and purposes of any particular class shall be constructed, operated and maintained in accordance with the requirements of this ordinance relating to such class, unless such construction shall prove impracticable or unless there would be a conflict between the provisions of this ordinance relating to the construction of buildings; in either of which such cases the provisions relating to and governing the construction of buildings of the class requiring the best and safest form of construction shall govern.

SEC. 63. CONFLICT BETWEEN SPECIAL AND GENERAL PROVISIONS.

Whenever any provision or requirement of this ordinance relating specifically to the construction, equipment, maintenance or operation of any building or part of a building used for the purposes of any specified class shall conflict with the general provisions of this ordinance relating to the construction, opera-

tion and equipment of buildings generally the special provisions shall govern in each case.

SEC. 100. CLASS I.

In Class I. shall be included every building used for the sale, storage or manufacture of merchandise other than department stores, as described in Sections 60 and 700, and all stables covering or occupying a ground area of over five hundred square feet.

SEC. 101. WALLS OF CLASS I.—THICKNESS OF.

The thickness of surrounding walls and of all dividing walls in every building used wholly or in part for the purposes of Class I. shall be made as indicated in the following table, to wit:

		STORIES											
	Basement	1	2	3	4	5	6	7	8	9	10	11	12
One-story	12	12											
Two-story	16	12	12										
Three-story	16	16	12	12									
Four-story	20	20	16	16	12								
Five-story	24	20	20	16	16	16							
Six-story	24	20	20	20	16	16	16						
Seven-story	24	20	20	20	20	16	16	16					
Eight-story	24	24	24	20	20	20	16	16	16				
Nine-story	28	24	24	24	20	20	20	16	16	16			
Ten-story	28	28	28	24	24	24	20	20	20	16	16		
Eleven-story	28	28	28	24	24	24	20	20	20	16	16	16	
Twelve-story	32	28	28	28	24	24	24	20	20	20	16	16	16

Provided, however, in buildings of steel skeleton fireproof construction thickness of walls shall be governed by Section 911.

SEC. 102. BUILDINGS—HEIGHT AND CONSTRUCTION OF.

Buildings of Class I. which are one hundred feet or more in height shall be built entirely of fireproof construction.

Buildings of Class I. less than one hundred feet and more than sixty feet in height shall be built entirely of slow-burning, mill or fireproof construction.

No building of Class I. more than five stories in height shall be permitted to be built of ordinary construction.

SEC. 103. WALLS—EXCEPTION TO TABLE OF THICKNESS OF.

If buildings of Class I. are erected of less depth than 100 feet from front to rear or between cross walls, or if the walls supporting their floors and roofs are less than twenty-five feet apart, the thickness of the walls given in the aforesaid table may be reduced by four inches, excepting only that no wall in such buildings shall be less than twelve inches thick.

SEC. 104. WALLS—METAL, LATH AND SOLID CEMENT PLASTER COVERING.

A one or two-story building used for the purposes of Class I., no part of which is within twenty feet of any lot line, alley line

or street line, having a complete self-supporting steel frame consisting of wall columns supporting steel trusses, with steel trusses and steel diagonals designed to resist safely within the safe limits of stress provided by this ordinance a wind pressure of thirty pounds per square foot for each and every exterior surface exposed to the wind, in addition to the dead weight of the completed structure and in addition to the live load of one hundred pounds per square foot provided for by this ordinance and any other live loads which may be imposed on said structure, may have exterior walls measuring not less than one and one-third inches thick of metal, lath or metal fabric plastered on both sides with a mortar consisting only of Portland cement and torpedo sand. A complete reinforced concrete framework built in every manner equally as strong and as safe as provided for a steel frame in this section may have exterior walls built in the same manner of the same materials and of the same thickness.

SEC. 105. DOOR OPENINGS AT STREET LEVEL—CLASS I.

The aggregate width of door openings at the street level in buildings of Class I. shall be equal to the aggregate width of stairways, as specified in Section 115 of this ordinance, and such doors shall not be locked during business hours or while such buildings are occupied by a number of persons for any purpose. Revolving doors shall not be considered as complying with this section.

SEC. 106. BUILDINGS OF CLASS I.—INCREASING HEIGHT OF.

In all cases where buildings of Class I., of ordinary construction, already built, are to be increased in height above the height of sixty feet or above the height of one hundred feet, the additional parts of such buildings shall be constructed as herein provided for buildings over sixty feet high or over one hundred feet high, respectively, and shall be made to conform in all respects and throughout their entire extent to the requirements for buildings of this class more than sixty feet or more than one hundred feet high, respectively, before it shall be lawful to occupy them.

SEC. 107. CEILING AND ROOF OF CLASS I.—SPACE BETWEEN.

In buildings of Class I., if the inclosed space between the ceiling and the roof is of greater average height than two feet, easy and convenient means of access, satisfactory to the fire marshal, shall be given to such space.

SEC. 108. FIRE WALLS—IN BUILDINGS OF CLASS I.

Buildings occupied by more than one person, firm or corporation, in separate inclosures on any one floor, shall have a brick dividing wall for every fifty (50) feet of street frontage if of ordinary construction, or for every eighty (80) feet of street frontage if of slow-burning or mill construction, and such dividing walls shall extend from the front to the rear wall, and

such dividing walls, and the doors therein shall be built, the doors in such dividing walls shall be built as dividing walls and the doors therein are required to be built by the provisions of this ordinance.

All of the partitions between the parts of such buildings, occupied by different persons, firms or corporations shall be built of incombustible material from the floor to the floor boards or roof boards next above such story or stories so occupied.

Only metal framed windows glazed with one-quarter inch thick fire-resisting glass may be used in such partitions.

SEC. 109. DIVIDING WALLS—WHEN REQUIRED IN CLASS I.

Dividing walls will be required in buildings of Class I. as follows: For buildings of ordinary construction if their floor area exceeds nine thousand square feet; for buildings of slow-burning or mill construction more than one story in height if their area exceeds twelve thousand square feet; for fireproof buildings more than two stories in height, if their area exceeds twenty-five thousand square feet. In each of the before mentioned cases such buildings shall be subdivided by brick walls built of the thickness given in the table for the thickness of inclosing walls, and all doors and other openings in such walls shall have iron doors or shutters at each side of same. The buildings so subdivided shall be treated as regards stairs and fire escapes the same as two or more separate buildings, provided, however, one-story buildings of ordinary, mill or slow-burning construction or two-story buildings of fireproof construction of any size, used as one store, room or workshop and occupied by only one person, firm or corporation, may be erected without any dividing walls.

SEC. 110. DIVIDING WALLS AND IRON DOORS—OPENINGS INSERTED IN.

If openings are to be inserted in dividing walls, as before described, or in dividing walls between non-fireproof and fireproof buildings or parts of either of such buildings, they shall be made as follows:

They shall have doors placed on each side of each opening in such walls, which doors shall be made of No. 12 plate iron with a continuous 2 by 2 by one-half-inch angle iron frame extending all around the same and the plate riveted thereto with one-half-inch rivets, placed four inches between centers. If such doors are made double they shall have cross bars, levers and hooks so arranged that when the doors are closed they will be of strength equal to that of a single door. All doors shall be hung on frames made of three-quarter by 4-inch iron stiffened with angle iron extending all around the same and fitting up snug to the wall. The frames shall be fastened to each other by bolts extending through the wall, such bolts being not more than two feet apart, and such doors shall swing on three hinges and shall be made to fit closely to the frame all around. The sills between the doors shall be of brick, iron, stone or con-

crete and shall rise at least two inches above the floor on each side of each opening. The lintel over the door shall be made of brick or iron, and the wall between the two door frames shall be covered with a coat of plaster at least one-half inch thick.

SEC. 111. ELEVATOR BUILDINGS—BINS OF.

Elevator buildings (which term shall be interpreted as including all buildings intended solely for the receipt, storage and delivery of grain in bulk) may be constructed with the bin walls both externally and internally, made entirely of wood; provided such walls are made solid and without cellular open spaces within them. The external bin walls shall have a covering of brick or hollow tile not less than twelve inches thick, which shall be united to the bin walls by anchors, in the construction and arrangement of which due allowance is made for the variations of shrinkage of the inclosing wall and of the wooden bin wall. If the weight of the bins is independently carried on a skeleton construction of timber, steel or iron, the first-story walls shall be of brick not less than twenty inches thick. If the outer walls of the outside bins and their facing are not carried on a skeleton construction, then the first-story wall shall not be less than twenty-eight inches thick, or as much thicker as may be required to keep the load upon the brickwork within the limits of stress elsewhere specified in this ordinance. Elevator buildings may be built of reinforced concrete and they shall be built according to the provisions of Section 960 of this ordinance.

SEC. 112. CUPOLA—INCLOSURE WALLS OF—OPENINGS.

The inclosing walls of cupolas on elevator buildings, if constructed of wood, shall be covered with corrugated iron or other incombustible material.

The outside openings in elevator buildings shall have protections of wire netting made of No. 14 wire, with meshes not over one-half by one-half inch.

All openings in the body of the first story of elevator buildings and the openings in the engine and boiler houses of the same and between these and the main buildings shall have iron doors made in accordance with the provisions of Section 110 of this ordinance.

SEC. 113. VENTILATING DUCTS—CHUTES—WALLS SURROUNDING.

Walls surrounding ventilating ducts and rubbish and ash chutes shall be constructed in accordance with the regulations governing the construction of smoke flues elsewhere herein contained. Walls around ventilating ducts shall not be less than four inches thick, and when the ventilating duct is larger than 260 square inches the walls shall be not less than eight inches thick.

SEC. 114. STORE FRONTS—COLUMNS AND LINTELS SUPPORTING.

The columns and lintels supporting store fronts in build-

ings within the fire limits of more than one story in height shall be made of incombustible material.

SEC. 115. STAIRS IN BUILDINGS OF CLASS I.—NUMBER AND WIDTH OF.

There shall be in all buildings of Class I. of ordinary construction and of less floor area than one thousand square feet and not more than two stories in height, a stairway not less than three feet in width, and in all buildings of ordinary construction of more than one thousand square feet of floor area and less than three thousand square feet of floor area, two flights of stairs not less than three feet wide each. For buildings of ordinary construction of Class I. and of greater floor area than three thousand square feet, there shall be six inches added to the width of each such flight of stairs for each additional one thousand square feet of floor area, or fractional part thereof, up to nine thousand square feet of floor area.

For buildings of slow-burning or mill construction with a floor area of less than twelve hundred square feet and not more than two stories in height, there shall be a stairway not less than three feet in width; buildings of a greater floor area than twelve hundred square feet and less than four thousand square feet shall have two flights of stairs, not less than three feet wide each, and there shall be six inches added to the width of each such flight of stairs for each additional one thousand square feet of floor area, or fractional part thereof, up to twelve thousand square feet. Provided, however, that additional flights of stairs may be used to make the aggregate width required, instead of widening the two flights above mentioned. It is further provided, however, that such stairs may be reduced one foot in width for each four stories in height, or fractional part thereof, above the fourth story of such building, but such stairs shall in no case be of less width than three feet.

For fireproof buildings there shall be required one flight of stairs not less than four feet wide for the first 3,000 square feet of floor area, or fractional part thereof. For buildings of more than 3,000 square feet and not exceeding 5,000 square feet of floor area, there shall be required one flight of stairs not less than five feet in width. For more than 5,000 square feet and less than 10,000 square feet of floor area, there shall be an additional flight of stairs not less than three feet in width. For more than 10,000 square feet and less than 15,000 square feet of floor area, each of such stairs shall be of not less width than five feet. For more than 15,000 square feet and less than 25,000 square feet of floor area, there shall be not less than three stairways of an aggregate width of fifteen feet; none of such stairs shall be of less width than three feet.

The width of the different stairways need not be alike. The width of each stairway in the fifth, sixth, seventh and eighth stories may be six (6) inches less in the clear than the width of the stairways in the first to the fourth stories, inclusive.

The width of each stairway in the ninth, tenth, eleventh and twelfth stories may be twelve (12) inches less in the clear than the width of the stairways in the first to the fourth stories, inclusive.

The width of each stairway in the thirteenth, fourteenth, fifteenth and sixteenth stories may be eighteen (18) inches less in the clear than the width of the stairways in the first to the fourth stories, inclusive, and this reduction in width may be continued in the same ratio in each additional four (4) stories added to the height of the building; provided, however, that no stairway shall have a less clear width than three (3) feet.

All stairways in buildings of Class I. shall have a hand rail on each side thereof, and where there is more than one stairway in any building of Class I., such stairways shall be located at each end of the building, or as far apart from each other as is practicable.

Doors and Windows—When required to be closed, fire-resisting glass. See Section 1049.

Limitations in Changing Class of Buildings—See Section 1050.

Buildings Used for the Purposes of More Than One Class—See Section 62.

Courts, light shafts, well holes, etc., to be built in accordance with Section 707.

SEC. 116. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS OF CLASS I.

The floors of all buildings of Class I. shall be designed and constructed in such a manner as to be capable of bearing in all their parts, in addition to the weight of floor construction of partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of one hundred pounds for every square foot of surface in such floor; and the strength of such building shall be increased above the capacity to carry such a live load of one (1) hundred pounds per square foot of floor surface when the uses to which such building or part thereof is to be applied involve greater stress.

SEC. 117. FLOORS—DISPLAY OF PLACARD INDICATING STRENGTH OF.

It shall be the duty of the owner of every building of Class I. already constructed, or hereafter to be constructed, or of his agent, or of the occupant or person in possession, charge or control of the same to affix and display conspicuously on each floor of such building a placard stating the load per square foot of floor surface which may with safety be applied to that particular floor or if the strength of different parts of any floor varies, then, there shall be such placards for each varying part of such floor. It shall be unlawful to load any such floors, or any part thereof, to a greater extent than the load indicated upon such placards. It shall be the duty of occupants of buildings to maintain such placards during their occupation of the premises, and the owners of buildings, or their agents, to cause

the same to be properly affixed with each change of occupation. It shall be part of the duty of architects of all buildings to calculate the figures for such placards, which are to be verified and approved by the Commissioner of Buildings before they are affixed upon the respective floors of the different buildings.

Walls—Ledges—See Section 997.

Walls—Around Stairs, Elevators and Shafts—See Section 998.

Walls—Reinforced Concrete—See Section 960.

Towers—Domes—Spires—See Section 1026.

PROVISIONS RELATING TO CLASS II.

SEC. 200. CLASS II.

In Class II. shall be included every office building, every hospital, and every building used for hotel purposes or for boarding or lodging house purposes, where such building so used for hotel, hospital or boarding or lodging house purposes is occupied by twenty or more persons.

SEC. 201. WALLS OF CLASS II.

Thickness of buildings of Class II. shall conform to the following requirements:

The thickness of the inclosing walls of buildings of this class shall be made in accordance with the following table, to wit:

	Basement	STORIES											
		1	2	3	4	5	6	7	8	9	10	11	12
Basement and	12	8											
Two-story	12	12	8										
Three-story	16	12	12	12									
Four-story	20	16	16	12	12								
Five-story	20	16	16	16	12	12							
Six-story	20	20	16	16	16	12	12						
Seven-story	24	24	20	20	16	16	12	12					
Eight-story	24	24	24	20	20	16	16	12	12				
Nine-story	28	24	24	20	20	20	16	16	12	12			
Ten-story	28	24	24	24	20	20	20	16	16	12	12		
Eleven-story	28	28	24	24	24	20	20	20	16	16	12	12	
Twelve-story	32	28	28	24	24	24	20	20	20	16	16	12	12

Provided, however, in buildings of steel skeleton fireproof construction, thickness of walls shall be governed by the provisions of Section 911 of this ordinance.

SEC. 202. BUILDINGS—CONSTRUCTION OF—HEIGHT OF.

Buildings of Class II. which are one hundred feet or more in height shall be built entirely of fireproof construction.

Buildings of Class II. less than one hundred feet and more than sixty feet in height shall be built entirely of slow-burning, or mill or fireproof construction. Buildings of Class II. not exceeding four stories in height and less than sixty feet in height may be built of ordinary construction.

SEC. 203. WALLS—DIVISION AND PARTITIONS IN BOARDING OR LODGING HOUSES AND HOTELS.

In buildings used wholly or in part for boarding houses,

lodging houses, or hotels, sixty feet or less in height, there shall be for every eight rooms in any one story dividing walls or partitions of incombustible material, separating such eight rooms from the contiguous spaces. Partitions surrounding stairs and corridors shall be made of fireproof material.

SEC. 204. STAIRS IN BUILDINGS OF CLASS II.

Stairs in buildings of Class II. shall be adapted, in number and width, to the area, height, and to the uses to be made of the building in which they occur.

For office buildings, by which shall be understood buildings divided into apartments intended for business uses only, and in which there shall be no sleeping apartments whatever, there shall be in buildings of ordinary construction and of less ground area than three thousand square feet, two flights of stairs not less than three feet wide each; and for office buildings of ordinary construction and of greater floor area than three thousand square feet, there shall be six inches added to the width of each flight of stairs for each additional one thousand feet of floor area, or fractional part thereof, up to six thousand square feet of floor area; and for office buildings of ordinary construction and of greater floor area than six thousand square feet, there shall be an additional flight of stairs not less than three feet wide for each additional three thousand square feet of floor area, or fractional part thereof.

For office buildings of slow-burning or mill construction there shall be at least two flights of stairs three feet wide, each, for the first four thousand square feet of floor area, and there shall be six inches added to the width of each such flight of stairs for each additional one thousand square feet of floor area, or fractional part thereof, up to eight thousand square feet of floor area; and an additional flight of stairs not less than three feet wide shall be required for each additional four thousand square feet of floor area, or fractional part thereof, above eight thousand square feet.

For fireproof office buildings, there shall be required one flight of stairs not less than four feet in width for the first three thousand square feet of floor area, or fractional part thereof.

For fireproof office buildings of more than three thousand, and not exceeding five thousand square feet of floor area, there shall be required one flight of stairs not less than five feet in width.

For more than five thousand and less than ten thousand square feet of floor area, there shall be required an additional flight of stairs not less than three (3) feet in width.

For more than ten thousand and less than twenty thousand square feet of floor area, there shall be required two flights of stairs of not less width than five (5) feet each; provided, that for each and every fireproof building of more than ten thousand square feet floor area there shall be at least two stairway fire escapes, placed as far apart as practicable, on such

buildings, in addition to the stand-pipe and platform escape required by this ordinance and the statutes of this state.

An additional flight of stairs shall be required for each additional ten thousand square feet of floor area; provided, that for each additional five thousand square feet of floor area such stairway shall not be less than three feet wide.

And for additional floor areas between five thousand and ten thousand square feet, such stairway shall be not less than five feet in width.

HOSPITALS, HOTELS, BOARDING OR LODGING HOUSES.

For all buildings of Class II. of ordinary construction used as hotels, boarding or lodging houses, or hospitals, there shall be required for each building at least two flights of stairs, which, for buildings of three thousand square feet or less in floor area, shall be of not less width than three feet each, with an increase of six inches in width for each additional one thousand square feet of floor area, or fractional part thereof, up to a floor area of five thousand square feet, and after that there shall be an additional flight of stairs not less than three feet wide for each additional two thousand square feet of floor area, or fractional part thereof.

For all buildings of Class II. slow-burning or mill construction used as hospitals, hotels, boarding or lodging houses, there shall be required for each building at least two flights of stairs, which, for buildings of four thousand square feet or less in floor area, shall be of not less width than three feet each, with an increase of six inches in width for each additional one thousand square feet of floor area, or fractional part thereof, up to a floor area of six thousand square feet; and after that there shall be an additional flight of stairs not less than three feet wide for each additional three thousand feet of floor area, or fractional part thereof.

For all buildings of Class II. of fireproof construction used as hospitals, hotels, boarding or lodging houses, there shall be required for each building at least two flights of stairs, which, for buildings of five thousand square feet or less in floor area, shall be of not less width than three feet each, with an increase of five inches in width for each additional one thousand square feet of floor area up to a floor area of ten thousand square feet, and there shall be required an additional flight of stairs not less than three feet wide for each additional four thousand square feet of floor area, or fractional part thereof.

Each stairway in the fifth, sixth, seventh and eighth stories may be built six (6) inches less in width in the clear than the stairways in the first to the fourth stories, inclusive.

Each stairway in the ninth, tenth, eleventh and twelfth stories may be built twelve (12) inches less in width in the clear than the stairways in the first to the fourth stories, inclusive.

Each stairway in the thirteenth, fourteenth, fifteenth and sixteenth stories may be built eighteen (18) inches less in

width in the clear than the stairways in the first to the fourth stories, inclusive, and this reduction in width may be continued in the same ratio in each additional four (4) stories added to the height of the building; provided, however, that no stairway shall have a less clear width than three (3) feet.

All stairways in buildings of Class II. shall have a hand rail on each side thereof, and where there is more than one flight of stairs in any building of Class II., such stairways shall be located at each end of the building, or as far apart from each other as is practicable.

SEC. 205. FIRE STOP IN HOTELS, HOSPITALS, LODGING HOUSES AND BOARDING HOUSES.

In hotels, hospitals, lodging houses or boarding houses, of other than fireproof construction, there shall be a fire stop of brick, concrete or tile, between the ceiling and floor in each floor of joists for each twenty-five feet, or fractional part thereof, measured in the direction of the length of the joists.

SEC. 206. AIR—MEANS OF COMMUNICATION WITH OUTER AIR IN BUILDINGS OF CLASS II.

In all buildings of this class, the courts, windows, light shafts, alcoves and vents shall be of the same size and dimensions as are prescribed in Sections 615, 623, 625, 627, 635, 636, 638 to 645, 646, 648 of this ordinance relating to buildings of Class VI.

SEC. 207. JOISTS—SUPPORTS FOR.

If in buildings of Class II. the distance between the inclosing walls is more than twenty-four feet in the clear, there shall be intermediate supports for the joists, which supports shall be either brick walls or iron or steel columns and beams or trusses or girders. If brick walls are used for this purpose, they may, in all cases where the thickness of walls is given in the table as sixteen inches or more, be made four inches less in thickness than the dimensions stated in the table.

SEC. 208. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS OF CLASS II.

For all buildings of Class II. the floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of the floor construction, partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of fifty pounds for every square foot of surface in such floors.

SEC. 209. STALLS OR ROOMS OF CLASS II.—WHEN CONSIDERED HABITABLE.

In buildings of Class II. no room shall be considered habitable or used as a habitation, unless it has at least one window of an area equal to one-tenth of the superficial area of such room, opening into the external air. Provided, however, that no stall or compartment used as a sleeping room in a building, the walls of which stall or compartment do not extend within a distance of two and one-half feet from the ceiling thereof, shall

be regarded and considered to be a room within the intent and meaning of the provisions hereof, but the walls of every such stall or compartment shall be of incombustible material.

SEC. 210. HOSPITALS—CONSTRUCTION—HEIGHT OF— PERMITS—SPECIAL CONSENTS.

It shall be unlawful for any person, or corporation, to build, construct, maintain, conduct or manage in any block, if two-thirds of the buildings fronting upon both sides of the streets bounding such block or square are devoted chiefly to residence purposes, any hospital for the care, treatment or nursing of three or more insane persons; or any hospital for the care, treatment or nursing of three or more inebriates, or persons suffering from the effect of the excessive use of alcoholic liquors; or any hospital for the care, treatment or nursing of three or more epileptics; or any hospital for the care, treatment or nursing of three or more persons addicted to, or suffering from, the excessive use of morphine, cocaine, or other similar drugs or narcotics; or any hospital for the care, treatment or nursing of any person affected with any infectious or contagious disease, unless the owners of a majority of the frontage in such block or square, and in addition thereto the owners of a majority of the frontage on the opposite sides of the streets bounding such block or square, consent in writing to the building, constructing, maintaining, managing or conducting of any such hospital in such block or square. Such written consents of the majorities of such property owners shall be filed with the Commissioner of Buildings, and an exact copy of same shall be filed with the Commissioner of Health, before a permit shall be granted for the building or constructing, or a license issued for the maintaining, conducting or managing of any such hospital. Provided, that any building that may be used for hospital purposes which is over two stories in height shall be of fire-proof construction throughout, and no hospital shall be built to exceed six stories in height.

SEC. 211. HOSPITALS—LOCATION OF NEAR SCHOOL HOUSES.

No hospital of any kind or description hereafter erected or established shall be erected or established within four hundred feet of property used for school purposes.

Walls.—Ledges.—Joist Supports.—All ledges in walls shall be as specified in Section 997 of this ordinance.

Walls.—Reinforced concrete, see Section 960.

Roofs.—Strength of.—The roofs of buildings shall be designed and constructed as is required in Sections 1013 and 1023.

Roofs.—Shingle. See Section 1021.

Towers, Domes and Spires.—Construction of. See Section 1026.

Skylights.—Construction, Glass in. See Section 1027.

Bay Windows and Light Shafts.—Material for. See Section 1010.

Doors and Windows.—When required to be closed.—Fire-resisting glass. See Section 1049.

Wind Pressure.—Precautions against. See Section 1013.

Windows.—Cleaning, Safety Devices. See Section 1147.

Buildings used for the purposes of more than one class. See Section 62.

Limitations in changing class of buildings. See Section 1050.

Walls.—Around stairs, elevators and shafts. See Section 998.

PROVISIONS RELATING TO CLASS III.

SEC. 300. CLASS III.

In Class III. shall be included every building used as a family residence; also every building used for stabling purposes, where such building so used shall occupy a ground area of less than five hundred square feet.

SEC. 301. WALLS OF CLASS III.—THICKNESS OF.

Buildings of Class III. shall conform to the following requirements:

The thickness of inclosing walls of buildings of this class shall be in accordance with the following table, to wit:

		STORIES											
	Basement.	1	2	3	4	5	6	7	8	9	10	11	12
Basement and.....	12	8											
Two-story	12	12	8										
Three-story	16	12	12	12									
Four-story	20	16	16	12	12								
Five-story	20	16	16	16	12	12							
Six-story	20	20	16	16	16	12	12						
Seven-story	24	24	20	20	16	16	12	12					
Eight-story	24	24	24	20	20	16	16	12	12				
Nine-story	28	24	24	20	20	20	16	16	12	12			
Ten-story	28	24	24	24	20	20	20	16	16	12	12		
Eleven-story	28	28	24	24	24	20	20	20	16	16	12	12	
Twelve-story	32	28	28	24	24	24	20	20	20	16	16	12	12

Provided, however, in buildings of steel skeleton fireproof construction, thickness of walls shall be governed by the provisions of Section 911 of this ordinance.

SEC. 302. BUILDINGS—CONSTRUCTION OF—HEIGHT OF.

Buildings of Class III. which are one hundred feet or more in height shall be made entirely of fireproof construction.

Buildings of Class III. less than one hundred feet and more than sixty feet in height shall be built entirely of slow-burning mill or fireproof construction.

Buildings of Class III. less than sixty feet in height may be built of ordinary construction.

SEC. 303. SKYLIGHTS—CONSTRUCTION OF—GLASS IN.

The skylight on the roof of any building of Class III., other than a frame building, shall have the sides, sashes and frames

constructed of metal, or of wood metal clad on all exterior surfaces. If the building exceed three stories in height, such skylight shall be at least six inches over same a strong wire netting (wire not lighter than No. 8 and mesh not coarser than $1\frac{1}{2} \times 1\frac{1}{2}$ inches), unless the glass contains a wire netting within itself.

SEC. 304. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS OF CLASS III.

For all buildings of Class III. the floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of floor construction, partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of forty pounds for every square foot of surface in such floors.

SEC. 305. ROOMS OF CLASS III.—WHEN CONSIDERED HABITABLE.

In buildings of Class III. no room shall be considered habitable or used as a habitation unless it has at least one window of an area equal to one-tenth of the superficial area of such room opening into the external air.

SEC. 306. FIRE WALLS—THICKNESS OF—WHEN DISPENSED WITH.

In buildings of Class III. fire walls of brick not less than twelve inches thick shall be built, extending above the roofs of all buildings, if such roofs are flat, and also above the roofs of all buildings when the same abut against another building, or where the same stand upon any line of any lot, excepting street or alley lines. Provided, that where eight-inch walls are permitted in the top story of buildings, or where the building is not over three stories high, the fire walls may be eight inches thick. Such fire walls, where they stand upon lot lines or where they are over the dividing walls between buildings, or over the dividing walls in the interiors of buildings, where such are called for by this ordinance by reason of the great area of such buildings, shall extend at least two feet above the roofs of such buildings. Fire walls upon street and alley lines shall extend not less than eighteen inches above the roofs of such buildings. Fire walls may be dispensed with on street and alley lines, if the tops of the roof boards and roof joists are protected against fire for a distance of at least five feet from such street or alley lines by a coating of mortar or hollow tile or porous tile at least two inches thick. Fire walls at street and alley lines may also be dispensed with in all cases where the entire framing and material of the roof is made strictly fireproof.

Walls facing upon courts and light shafts shall be treated as in the same category with walls facing upon streets and alleys.

Fire walls shall be covered with a weatherproof coping of incombustible material.

SEC. 307. BAY WINDOWS AND LIGHT SHAFTS—MATERIAL FOR.

Bay or oriel windows and light shafts may be built of combustible material in buildings of Class III. of two stories or less in height, provided, such bay and oriel windows or light shafts shall not have a greater width than twelve feet at wall line of building, and, provided, that the outside walls, roofs, and soffits of such bay or oriel windows and light shafts, when so constructed, shall be covered with sheet metal or other incombustible material. In all other cases, bay and oriel windows and light shafts and their supports shall be constructed entirely of incombustible material.

SEC. 308. WALLS—BRICK WALL UPON WOODEN SILLS—LEVEL OF SILLS ALLOWED.

All buildings of Class III. not exceeding one story in height and twenty feet in height from top of sills to highest point of roof, and with side walls not exceeding fourteen feet in height, and with floor area not exceeding one thousand two hundred square feet, may have brick walls not less than eight inches in thickness erected on wooden sills, the sills supported on iron, masonry or concrete supports extending four feet below the surface of the ground. The foundations under such supports shall be of concrete, stone or brick, each covering not less than five square feet area and not more than eight feet apart to support the weight that may rest upon them with safety; sills shall be placed not higher than four feet above the established grade on the street fronting the lot upon which the building is erected, where grades are established, and not exceeding seven feet above the ground where grades are not established. In all cases of buildings being more than one story and less than two stories high, and having a gable or hip roof of not less than one-third ($\frac{1}{3}$) pitch, eight-inch walls on solid brick or stone masonry may be used, provided they do not exceed fourteen feet in height measured from first floor joist, and provided such buildings have a floor area not exceeding one thousand two hundred (1,200) feet and are not over twenty-two feet in width.

Roofs.—Strength of. See Sections 1013 and 1023.

Roofs.—Shingle and gravel. See Section 1021.

Wind Pressure.—Precautions against. See Section 1013.

Walls.—Reinforced concrete. See Section 960.

Walls.—Ledges. See Section 997.

Towers, Domes and Spires. See Section 1026.

Limitations in Changing Class of Buildings. See Section 1050.

PROVISIONS RELATING TO CLASS IV.**SEC. 400. CLASS IV.**

In Class IV. shall be included every building used as an assembly hall, whether such hall is used for the purpose of worship, instruction or entertainment, unless such building is

used for any of the purposes for which buildings of Class V. or Class VIII. are used.

SEC. 401. WALLS—OUTSIDE WALLS OF CLASS IV.—
STRUCTURES BUILT ABOVE—WALLS OF.

The outside walls of all buildings used wholly or in part for the purpose of Class IV., the roof or ceiling of which is carried on trusses or girders of a span of fifty feet or more, shall be as follows:

If such walls are less than twenty-five feet high, not less than twenty inches thick.

If they are more than twenty-five feet high and less than forty-five feet high, they shall not be less than twenty-four inches thick.

If they are more than forty-five feet and less than sixty feet high, they shall not be less than twenty-eight inches thick.

If they are more than sixty feet and less than seventy-five feet high, they shall not be less than thirty-two inches thick.

If they are more than seventy-five feet and less than ninety feet high, they shall not be less than thirty-six inches thick.

An increase of four inches in thickness of such walls shall be made in all cases where they are over one hundred feet long without cross walls of equal height.

Walls around stairs, elevators and shafts. See Section 998.

For rooms used for the purposes of Class IV., where such rooms are less than fifty feet wide in the clear, the thickness of the walls enclosing or surrounding such rooms may be reduced by four inches.

The outside walls of all buildings of Class IV., the roof or ceiling of which is not carried on trusses or girders, shall be of the same thickness as in buildings of Class I.

If one or more stories are built above the room devoted to the uses of Class IV., and such stories are carried on trusses or girders, the thickness of walls shall be increased by four inches for each two stories or part thereof above every such room.

If solid masonry buttresses are employed, and placed eighteen feet or less apart, and extended to the foot of the trusses or girders carrying the ceiling, or if iron or steel pillars are inserted in such walls for the support of the superstructure, and at distances not more than twenty-four feet between centers, and if such pillars extend to and carry the superimposed trusses and girders, the thickness of such walls may be reduced in proportion to the increase of strength afforded by such buttresses or pillars; but in no case shall any such wall be less than twelve inches thick in the top story; four inches shall be added, going downward, for each story, or for each twenty-five feet in height of wall. Provided, that if in any building of this class now in existence the structural parts thereof do not comply with the foregoing requirements, and structural changes are made therein, then, all walls, columns or other structural parts shall

be strengthened in a manner satisfactory to the Commissioner of Buildings.

SEC. 402. WALLS—COLUMNS OR PILLARS IN.

If iron or steel columns or pillars are introduced in such walls, the brickwork around the same shall be bonded into that of the connecting walls, and each of such columns or pillars shall be fireproofed, as provided in Section 912 of this ordinance.

SEC. 403. FRONTAGE OF CLASS IV. SEATING LESS THAN 800.

Buildings of Class IV., containing halls of an aggregate seating capacity of eight hundred persons or less, shall have for each hall a frontage upon two public spaces, of which at least one shall be a street, and of which the other, if it is not a street, shall be a public or private alley, not less than ten feet wide, opening directly on a public street.

SEC. 404. FRONTAGE OF CLASS IV. SEATING OVER 800.

Buildings of Class IV., containing halls of greater aggregate seating capacity than eight hundred, shall have for each hall a frontage upon three open spaces, of which at least one shall be a public street, while the two others, if not streets, shall be public or private alleys of a width of not less than ten feet each, opening directly on a public street, or fireproof passageways or tunnels of not less than seven feet each in width may be used in place of these alleys, provided, such passageways or tunnels lead to a public thoroughfare.

SEC. 405. BUILDINGS, CLASS IV.—CONSTRUCTION OF.

Buildings of Class IV., containing halls of an aggregate seating capacity of not more than eight hundred, may be built of ordinary construction. If such halls have a greater aggregate seating capacity than eight hundred and less than one thousand five hundred, such buildings shall be built of mill, slow-burning or fireproof construction. If such halls have an aggregate seating capacity of one thousand five hundred or more, such buildings shall be built entirely of fireproof construction.

In computing the seating capacity of any room or building of Class IV., in which the seats are not fixed, an allowance of eight square feet of floor area shall be made for each person, and all space between the walls or partitions of such room or building shall be measured in this computation.

SEC. 406. BUILDINGS OF CLASS IV. USED PARTLY FOR OTHER PURPOSES.

Any building occupied wholly or in part for the purposes of Class IV., shall be built entirely of fireproof construction, if the halls therein have an aggregate seating capacity greater than one thousand five hundred.

SEC. 407. BUILDINGS OF CERTAIN HEIGHT—CONSTRUCTION OF.

Any building higher than sixty feet and connected with or made part of any building used wholly or in part for the purposes of Class IV., shall be entirely of fireproof construction. Any such building less than sixty feet in height shall, if its case is not already covered by other provisions of this ordinance, be made of fireproof, slow-burning or mill construction.

SEC. 408. OPENINGS BETWEEN NON-FIREPROOF BUILDINGS.

In all cases where fireproof construction is not used for the whole of two or more connected buildings, used wholly or in part for the purposes of Class IV., there shall be at each connecting opening, double iron doors.

SEC. 409. SPIRES, CUPOLAS AND DOMES UPON HOUSES OF WORSHIP.

Spires, cupolas or domes of non-fireproof material may be erected as part of any house of public worship, and if such house of worship is so built that it is nowhere nearer than twenty feet to any line of the lot upon which it stands (street and alley lines excepted), such non-fireproof spires, cupolas or domes may be maintained only while this intervening space of twenty feet is maintained unoccupied as part of the grounds or premises belonging to such house of public worship. In case the above is complied with, such spire, cupola or dome may be built with a framework of combustible material, which shall, however, be covered on the outside with incombustible material.

SEC. 410. VIOLATION—IF CONDITIONS VIOLATED, SPIRES, CUPOLAS OR DOMES MUST BE TAKEN DOWN—ROOFS OF ISOLATED BUILDINGS OF CLASS IV.

If the conditions of such building be so changed that there shall not be a vacant space as hereinbefore required surrounding same, such spire, cupola or dome shall be forthwith taken down.

The roofs of isolated buildings, occupied for purposes of Class IV., shall be constructed in the same manner as that provided for spires, domes and cupolas.

Provided, however, that the roofs of houses of worship outside the fire limits not exceeding twenty-eight hundred square feet in area may be covered with shingles.

SEC. 411. FLOOR LEVELS—LIMITATION OF FLOOR LEVELS OF CLASS IV.—AUDITORIUM FLOOR OF CLASS IV.—HEIGHT ABOVE SIDEWALK—STAIRS.

The following limitations of floor levels in buildings occupied either wholly or in part for purposes of Class IV. shall be observed in all cases.

In buildings occupied either wholly or in part for purposes of Class IV., no auditorium of a greater seating capacity than

one thousand shall have the highest part of its main floor at a greater distance than ten feet above the adjacent sidewalk grades. No room or rooms used for the purposes of Class IV., of greater seating capacity than five hundred, shall be at a greater distance from the sidewalk grade than thirty feet. No room or rooms used for the purposes of Class IV., of greater seating capacity than two hundred, shall be at a higher level above the sidewalk grade than forty-five feet.

Provided, however, that in the case of a building used either wholly or in part for the purposes of Class IV., and built wholly of fireproof construction, a room or rooms to be used for the purposes of Class IV., and of an aggregate seating capacity of less than five hundred, may be located in any story thereof, but in such case there shall be at least two separate and distinct flights of stairs from the floor or floors in which such room or rooms are located to the ground, each of which stairs shall be not less than four feet wide in the clear.

SEC. 412. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS OF CLASS IV.

All floors of all buildings of Class IV. shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of floor construction, partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of one hundred pounds for every square foot of surface in such floor.

SEC. 413. STAIRWAYS—ENTRANCES AND EXITS—WIDTH OF.

The width of stairways in buildings used wholly or in part for the purposes of Class IV. shall be eighteen inches for every one hundred of the aggregate seating capacity of all rooms in such building, which are used for the purposes of Class IV., and for fractional parts of each one hundred seating capacity a proportionate part of eighteen inches shall be added to the width of such stairways, but no stairway in such building shall be less than four feet wide in the clear, except as hereinafter provided; and provided, further, that in any such building having a room or rooms used for purposes of Class IV. the aggregate seating capacity of which shall not exceed two hundred and fifty, two separate and distinct three-foot stairways shall be permitted.

All stairways shall have hand railings on each side thereof. Stairways which are over seven feet wide shall have double intermediate handrails, with end newel posts at least five and one-half feet high. No stairways shall ascend a greater height than thirteen feet six inches without a level landing, which, if its width is in the direction of the run of the stairs, shall not be less than three feet wide, or which, if at a turn of the stairs, shall not be of less width than the width of the stairs.

Stairways leading to a box or boxes, seating not to exceed thirty people in the aggregate, shall be independent of all other stairs or seats and not less than two feet six inches wide in the clear. For each additional twenty-five of seating capacity, or

major portion thereof, in such boxes, an additional width of five inches shall be added to such stairways.

Walls, Ledges. See Section 997.

Doors and Windows. When required to be Closed. Fire-resisting Glass. See Section 1049.

SEC. 414. BALCONIES AND GALLERIES—EXIT AND ENTRANCE.

Distinct and separate places of exit and entrance shall be provided for each gallery. A common place of exit and entrance may serve for the main floor of the auditorium and the balcony, provided its capacity be equal to the aggregate capacity of all aisles or corridors leading from the main floor and such balcony to such place of exit and entrance.

SEC. 415. BALCONIES AND GALLERIES—DESIGNATION OF.

Where there are balconies or galleries, the first balcony or gallery shall be designated the "Balcony," and the second and third balcony or gallery shall be designated, respectively, "Gallery" and "Second Gallery." Such designation shall be plainly printed on all admission tickets.

SEC. 416. AISLES—STEPS IN AISLES—PASSAGEWAYS—KEPT UNOBSTRUCTED—WIDTH OF CORRIDORS, PASSAGES, HALLWAYS AND DOORS.

Aisles in rooms or auditoriums used for the purposes of Class IV. shall in the aggregate be eighteen inches in width for each one hundred of the seating capacity of such room or auditorium, and for fractional parts of one hundred, a proportionate part of eighteen inches shall be added; but no aisle shall be less than two feet and six inches in width in its narrowest part.

Steps shall be permitted in aisles only as extending from bank to bank of seats, and whenever the rise from bank to bank of seats is less than five inches the floor of the aisles shall be made as an inclined plane, and where steps occur in outside aisles or corridors, they shall not be isolated, but shall be grouped together and there shall be a light so placed as to illuminate such steps in such outside aisles or corridors. All aisles and passageways in such rooms or auditoriums shall be kept free from camp stools, sofas, chair and other obstructions, and no person shall be allowed to stand in or occupy any of such aisles or passageways during any performance, service, exhibition, lecture, concert, ball, or any public assembly.

SEC. 417. CORRIDORS, PASSAGEWAYS, HALLWAYS AND DOORS—WIDTH OF.

The width of corridors, passageways, hallways and doors adjacent to, connected with or a part of such rooms or auditoriums, shall be computed in the same manner as is herein provided for stairways and aisles, excepting, however, that no such corridor, passageway or hallway shall be anywhere less than four feet in width, and no such door shall be less than three feet in width.

SEC. 418. SEATS—NUMBER OF IN ROWS.

There shall not be more than fourteen seats in any one row between aisles.

Rows of seats shall not be less than two feet eight inches from back to back, and no bank of seats shall be of greater rise than twenty-four inches.

SEC. 419. EMERGENCY EXITS.

Emergency exits and stairways shall be provided outside of the walls of all assembly halls of a larger seating capacity than eight hundred. Provided, however, that if any such assembly hall is used for any of the purposes described in Section 425 of this ordinance, and has a seating capacity of more than four hundred, such assembly hall shall have emergency exits to the street of one-half the aggregate width of the main exits, but no such emergency exit shall be less than three feet in width.

Such emergency exits and stairways therefrom may be built inside the walls of the buildings in a corridor or passageway not less than seven feet wide, which corridor or passageway shall be surrounded by a fireproof partition, not less than four inches thick.

Such stairways shall be made of wrought iron or steel, or other approved fireproof material, and cast iron is not approved for this work. All emergency exits and stairways therefrom shall be kept free from obstruction of any kind, including snow and ice.

SEC. 420. DOORS TO OPEN OUTWARD.

All doors affording access directly or indirectly to the street from any room used for the purposes of Class IV. shall open outward upon suitable hinges.

Exit doors from such rooms shall not be obscured by draperies and shall not be locked, or fastened, in any manner during the entire time any such room is open to the public, but shall be so constructed and maintained that they may be easily opened from the interior.

SEC. 421. WALLS BETWEEN AUDITORIUM AND STAGE.

In buildings used either wholly or in part for the purposes of Class IV., hereafter erected, there shall be a solid brick wall, of the same thickness as that called for on the outside walls, between the auditorium and stage; and in non-fireproof buildings such walls shall extend to a height of three feet above the roof. Provided, however, that in existing buildings, any room used for the purposes of Class IV., and having a seating capacity greater than four hundred, shall have the proscenium wall built of incombustible material.

SEC. 422. CURTAIN SHALL BE IRON, STEEL OR ASBESTOS—INSPECTION OF—FEE.

The main curtain opening in any such room shall have a wrought iron or steel or asbestos curtain, which shall be inspected by the Building Department semi-annually, for which inspection a charge of two dollars shall be made, and all other

openings in the proscenium wall shall have self-closing iron doors.

SEC. 423. STRUCTURES OVER CEILING—CONSTRUCTION.

If any structure is built over the ceiling or roof of any building used either wholly or in part for the purposes of Class IV., the different members of the girders or trusses supporting same shall have their fireproofing double, in the manner required for columns or for fireproof buildings of Class I.

SEC. 424. FIRE APPARATUS ON STAGE.

In all rooms used for the purpose of Class IV., of a seating capacity of two hundred and fifty or more, where stationary scenery is used, there shall be kept for use two or more portable fire extinguishers or hand fire pumps on and under the stage, and also four fire department axes, two fifteen-foot hooks and two ten-foot hooks on each tier or floor of the stage, subject to the approval of the Fire Marshal, and in such rooms of less seating capacity than two hundred and fifty, there shall be at least one portable fire extinguisher.

SEC. 425. ROOMS USED FOR REGULAR THEATRICAL OR VAUDEVILLE PERFORMANCES—EXIT DOORS.

Exit doors shall not be obscured by draperies and shall not be locked or fastened in any manner during the entire time any such room of Class IV. is open to the public, so as to prevent them from being easily opened outwardly; and such doors shall be so constructed and maintained, as to require no special knowledge or effort to open them from the interior.

It shall be the duty of every person, or corporation, operating or maintaining any room, having a seating capacity of three hundred or more used for the purposes of Class IV., and which is used regularly for theatrical or vaudeville performances and where an admission fee is charged, to employ one competent, experienced fireman who shall be detailed by the Fire Marshal, and who shall be in the uniform of the Chicago Fire Department. Such fireman shall be on duty during the whole time such room is open to the public, and he shall report to and be subject to the orders of the Fire Marshal; he shall see that all fire apparatus required by this ordinance is in its proper place and in proper condition ready for use and that all exits are unlocked during the whole time such building is open to the public.

Such fireman and the Fire Marshal shall require all persons employed in or about such room to be drilled in the use of all apparatus and appliances for the prevention of fire installed therein, at least twice in every week, and such fireman shall report to the Fire Marshal the manner and efficiency of such drill. Such fireman shall report in writing daily to the Fire Marshal the condition and equipment of the building, or portion thereof, to which he is detailed. No fireman shall be on duty at any one building for a longer period than two weeks.

SEC. 426. STANDPIPE AND HOSE ON STAGE.

A standpipe not less than one and one-half inches in diameter with a hose connection and hose valve therein, shall be installed on each side of the stage in such room, and shall at all times have a hose connected thereto, ready for use.

Such standpipe shall be connected with a power pump or gravity tank so that a sufficient pressure of water shall be furnished through such standpipe to afford adequate fire protection. The pressure to be furnished by such tank or pump shall be satisfactory to the Fire Marshal.

SEC. 427. VENTS OR FLUE PIPES.

One or more vents or flue pipes of metal construction or other incombustible material approved by the Commisisoner of Buildings shall be built over the stage, and shall extend not less than ten feet above the highest point of the roof, and shall be equivalent in area to one-twentieth of the area of the stage.

In buildings where additional stories are built above the stage, such vents or flue pipes may be carried out near the top of the stage walls, and shall be continued and run up on the exterior of the building to a point five feet above the highest point of the additional stories.

All such flues or vents shall be provided with metal dampers, and shall be opened by a closed circuit battery, approved by the City Electrician.

Such dampers shall be controlled by two switches, one at the electrician's station on the stage, which station shall be fireproof, and the other at the city fireman's station on the opposite side of the stage; such switches shall be located in such places on the stage as may be designated by the Fire Marshal, and each switch shall have a sign with plain directions as to the operation of same printed thereon.

SEC. 428. FUSE BOXES.

All fuse boxes shall be surrounded by two thicknesses of fireproof material with an air space between, and no fuse shall be exposed to the air between the switchboards; all electrical equipment in such rooms shall be installed and maintained to the satisfaction and approval of the City Electrician.

SEC. 429. LICENSE.

The amusement license for each room used for the purposes of Class IV. shall state the number of persons such room has accommodations for, which number shall be governed by the provisions of this ordinance relating thereto, and no more than that number shall be allowed to be in such room at any one time.

No amusement license shall be issued for any room used for the purposes of Class IV. unless the Commissioner of Buildings, the Fire Marshal and the City Electrician shall first have certified, in writing, that such room complies with the provisions of this ordinance in every respect.

SEC. 430. EXITS—DIAGRAM OF, PRINTED ON PROGRAMS.

It shall be the duty of the owner, lessee, or manager of every room used for the purposes of Class IV., and in which programs are issued for performances given therein, to cause to be printed on such programs a diagram showing conspicuously the exits from such room.

SEC. 431. EXIT—SIGNS OVER.

The word "Exit" shall be in letters at least six inches high over the openings to every means of egress from any such room, and in any such room having a greater seating capacity than four hundred, a red light furnished by gas or sperm oil shall be kept burning over such word during the entire period such room is open to the public and until the audience has left such room.

SEC. 432. ALL PARTS OF ROOM WELL LIGHTED DURING PERFORMANCE.

Every portion of any room used for the purposes of Class IV. and all outlets therefrom leading to the streets, including the passageways, courts and corridors, stairways, exits, and emergency stairways, shall be well and properly lighted during every performances, and the same shall be kept so lighted until the entire audience has left the premises, and every passageway, or court, or corridor, or stairway, or exit, or emergency exit stairway, shall be provided with signs, indicating the way out of the building, the letters of which shall not be less than six inches in height.

**SEC. 433. LIGHTS IN HALLS, CORRIDORS AND LOBBIES,
CONTROL OF—SEPARATE SHUT-OFF—CONNECTION
WITH GAS MAINS—PROTECTION OF SUSPENDED
AND BRACKET LIGHTS—PROTECTION OF
LIGHTS INSERTED IN WALLS—PROTECTION
OF FOOTLIGHTS—CONSTRUCTION
OF BORDER LIGHTS—DUCTS AND
SHAFTS CONDUCTING HEATED AIR
FROM LIGHTS—PROTECTION OF
STAGE LIGHTS.**

All gas or electric lights in the halls, passageways, corridors, lobby or other means of ingress to or egress from any such room shall be controlled by a separate shut-off, located in the lobby, and controlled only in that particular place. Gas mains supplying any such room shall have independent connections for the auditorium and stage, and provision shall be made for shutting off the gas from the outside of the building. All suspended or bracket lights surrounded by glass, in the auditorium, or in any part of any such room, shall be provided with proper wire netting underneath. No gas or electric light shall be inserted in the walls, woodwork, ceilings, or in any part of any such room, unless protected by fireproof materials. The footlights, if gas light, in addition to the wire net work, shall

be protected by a strong wire guard, not less than two feet distant from such footlights and the trough containing such footlights shall be formed of, and be surrounded by, fireproof materials. All border lights shall be constructed according to the best known methods, subject to the approval of the City Electrician, and shall be suspended by wire rope. All ducts and shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal, and made double with an air space between. All stage lights, if gas, shall have strong metal wire guards or screens, not less than ten inches in diameter, so constructed that any material coming in contact therewith shall be out of reach of the flame, and such guards or screens shall be firmly soldered to the fixtures in all cases.

The use of calcium lights in any hall or room used regularly for theatrical or vaudeville performances is prohibited, and no calcium lights shall be permitted upon any stage; all arc lights used on the stage shall be subject to the approval of the City Electrician.

SEC. 434. APPARATUS UNDER CONTROL OF FIRE MARSHAL.

The standpipes, hose, and all apparatus for the extinguishing of fire or guarding against the same, required by the provisions of this ordinance to be provided, shall be at all times so provided and kept in a manner satisfactory to the Fire Marshal.

SEC. 435. SCENERY TO BE INCOMBUSTIBLE.

No scenery or stage paraphernalia of any sort shall be used upon the stage of any room used for the purposes of Class IV., unless such scenery and paraphernalia shall have been treated with a paint or chemical solution which shall make it non-inflammable, and which treated scenery or stage paraphernalia, or both, shall be tested and approved by the Fire Marshal.

SEC. 436. COMMISSIONER OF BUILDINGS, CITY ELECTRICIAN, FIRE MARSHAL AND SUPERINTENDENT OF POLICE EMPOWERED TO ENTER.

The Commissioner of Buildings, City Electrician, Fire Marshal, Superintendent of Police, and their respective assistants, shall have the right to enter any building used wholly or in part for the purposes of Class IV. and any and all parts thereof, at any reasonable time, and at any time when occupied by the public, in order to examine such building, and it shall be unlawful for any person to interfere with them in the performance of their duties.

SEC. 437. POWER OF OFFICERS TO CLOSE.

The Commissioner of Buildings, Fire Marshal, City Electrician or Superintendent of Police, or any one of them, shall have the power, and it shall be their joint and several duty, to order any building used wholly or in part for the purposes of Class IV. closed, where it is discovered that there is any violation of any

of the provisions of this article until the same are complied with.

SEC. 438. LICENSE—MAYOR SHALL REVOKE.

Upon the report to the Mayor by the Commissioner of Buildings, Fire Marshal, City Electrician or Superintendent of Police, or any of them, that any order or requirement of this article in regard to buildings used wholly or in part for the purposes of Class IV. has been violated or is not being complied with, in any such building, the Mayor shall revoke the amusement license of any amusement or entertainment therein conducted, and shall cause such building, or portion thereof, devoted to the uses of Class IV., to be closed.

PROVISIONS RELATING TO CLASS V.

SEC. 500. CLASS V.

In Class V. shall be included every building which is used as a public theater where an admission fee is charged and in which movable scenery is used; provided, however, that public halls and club halls with a seating capacity of less than six hundred, although occasionally used for theatrical representations, shall not be construed to be public theaters within the meaning of the term as used in this section, notwithstanding the fact that movable scenery is used upon the stage thereof on such occasions, and such public halls and club halls shall not be considered as buildings of Class V. as herein defined. Such public halls and club halls shall be included in Class IV., as defined in Section 400 of this ordinance.

SEC. 501.

The following provisions shall apply to buildings now in existence and of Class V.

SEC. 502. WALLS—OUTSIDE—STRUCTURES BUILT ABOVE.

The outside walls of all such buildings, the roofs or ceilings of which are carried on trusses or girders of a span of fifty feet or more, shall be as follows:

If such walls are less than twenty-five feet high, they shall be not less than twenty inches thick.

If they are more than twenty-five feet and less than forty-five feet high, they shall be not less than twenty-four inches thick.

If they are more than forty-five feet and less than sixty feet high, they shall be not less than twenty-eight inches thick.

If they are more than sixty feet and less than seventy-five feet high, they shall be not less than thirty-two inches thick.

If they are more than seventy-five feet and less than ninety feet high, they shall be not less than thirty-six inches thick.

An increase of four inches in thickness of such walls shall be made in all cases where they are over one hundred feet long, without cross-walls of equal height.

The thickness of the walls enclosing or surrounding rooms used for the purposes of Class V. where such rooms are less than fifty feet wide, may be reduced by four inches.

If one or more stories are built above any room devoted to the uses of Class V. and such stories are carried on trusses or girders the thickness of walls shall be increased by four inches for each two stories or part thereof above such room.

If solid masonry buttresses are employed and placed eighteen feet or less apart, and extended to the foot of the trusses or girders carrying the ceiling, or if iron or steel columns are inserted in such walls for the support of the superstructure, and at a distance not more than twenty-four feet between centers, and if such columns extend to and carry the superimposed trusses and girders, the thickness of such walls may be reduced in proportion to the increase of strength afforded by such buttresses or columns, but in no case shall any such wall be less than twelve inches thick in the top story, and four inches shall be added, going downward, for each story, for each gallery, or for each twenty-five feet in height of wall. Provided, that if in any such building now in existence the structural parts thereof do not comply with the foregoing requirements and structural changes are made therein, then all walls, columns or other structural parts shall be strengthened in a manner satisfactory to the Commissioner of Buildings.

SEC. 503. COLUMNS IN WALLS.

If iron or steel columns are introduced in such walls, the brick work around the same shall be bonded into that of the connecting walls, and each of such columns shall be fireproofed as provided in Section 912 of this ordinance.

SEC. 504. ALTERATIONS.

All alterations in such existing buildings intended to make them comply with the requirements of this ordinance may be executed with the same kind of materials as those originally used in the construction of such buildings unless otherwise provided by this ordinance.

SEC. 505. OTHER CLASSES BUILT IN CONJUNCTION WITH CLASS V.—DOORS FOR OPENINGS BETWEEN CONNECTING BUILDINGS.

In all cases where existing buildings used wholly or in part for the purposes of Class V. are built in conjunction with or as part of buildings devoted to the uses of other classes and where such buildings of the other classes, as specified in this ordinance, are not built entirely of fireproof construction, double iron doors shall be placed at each connecting opening between such buildings of Class V. and the building connected therewith.

SEC. 506. FLOOR LEVELS—LIMITATIONS OF.

The audience room or rooms of auditorium or auditoriums used for the purposes of Class V. containing in the aggregate not more than five hundred seats, if in a fireproof building, may be located in any story thereof, but in such case there

shall be at least two separate stairways from the floor or floors in which such audience room or auditorium is located to the ground, each of which stairways shall be not less than four feet in width in the clear.

In existing buildings of fireproof construction, having an audience room or auditorium with a seating capacity of more than five hundred and less than fifteen hundred the lowest bank of seats on the main floor thereof shall be not more than twelve feet above the street level, and every such building shall in all other respects conform to the requirements of this ordinance. The main floor of no existing theater of any construction other than fireproof shall be raised above its present elevation.

SEC. 507. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS OF CLASS V.

For all buildings of Class V., all floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of floor construction partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of one hundred pounds for every square foot of surface in such floors.

SEC. 508. STAIRWAYS—ENTRANCES AND EXITS.

Stairways affording ingress to or egress from any room or rooms used for the purposes of Class V., shall be in width equivalent to twenty inches for every one hundred of seating capacity of such room and for fractional parts of one hundred a proportionate part of twenty inches of width shall be added, but in no event shall any such stairway be less than four feet wide in the clear, except as hereinafter provided in this section.

All such stairways shall have hand railings on each side thereof and shall not ascend a greater height than thirteen feet six inches without a level landing, and the length and width of such landing shall not be less than the width of the stairs; no run of stairs shall consist of less than six risers between platforms, and risers shall not be placed on return platforms. Stairways which are over seven feet wide shall have double intermediate handrails with end newel posts at least five feet six inches high.

Steps shall not have a greater rise than seven and three-eighths inches, treads shall not be narrower than eleven inches, and winders shall not be used on any staircase, except where circular staircases are expressly permitted.

In existing theaters each and every balcony and gallery shall have separate and distinct entrance stairways from the sidewalk level, except that in cases where the vestibule or entrance to any such theater is not more than fifteen inches, or two steps, above the sidewalk level and such steps are at or near the building line, the stairways to such balcony and gallery may ascend from the floor of such vestibule or entrance, but if the run of the stairs at the bottom is not toward the street, there

shall be a hand rail or rails three feet above the floor constructed from the foot of such stairways for a distance of not less than five feet leading toward the street. All doors intervening between such stairways and the street shall, during each and every performance, be kept unfastened.

There shall be an iron stairway or stairways from the stage to the fly galleries and gridiron, continuing to the roof of the building or to some fireproof passageway or exit. Such stairways may be circular. Such circular stairways, however, shall not be used for access to the dressing rooms.

Stairs leading to a box or boxes seating not to exceed thirty people, in the aggregate, shall be independent of all other stairs and seats and not less than two feet eight inches wide in the clear. For each additional twenty-five of seating capacity, or major portion thereof, there shall be an additional width of five inches added to such stairways.

All stairways on the stage side of the proscenium wall shall be not less than two feet six inches wide.

Instead of increasing the width required for entrances, aisles, exits and stairways to that required by this ordinance, the owner, lessee or manager of any such theater shall have the privilege of reducing the number of permanent seats therein until the same ratio between such width and number of seats as hereinbefore provided for shall be established, and if such privilege be taken advantage of, it shall be the duty of the Commissioner of Buildings to make inspection and certify that such ratio actually exists before a license for the operation of any such theater shall be issued.

SEC. 509. FLOORS AND EXITS.

Floors at all exits shall be so designed as to be level and flush with adjacent floors and shall extend for an unbroken width of not less than four feet in front of each exit, and shall be two feet wider than such exit.

SEC. 510. SEATS IN ROWS BETWEEN AISLES.

More than ten seats in any row between aisles in any gallery shall not be permitted. On the main floor and balcony, not more than eleven seats between aisles shall be permitted; provided, however, that in banks of seats on main floors and balconies that are not at a greater distance than twenty feet from an exit, thirteen seats shall be permitted between aisles.

Seats shall be not less than twenty inches in width measured at the top of the seat backs.

Rows of seats shall be not less than two feet eight inches from back to back.

No bank of seats shall be of greater rise than twenty-two inches.

All groups of seats shall be so arranged that there shall be an aisle at each side of each group, provided, however, that groups of five seats or less may abut upon a tunnel at one side and an aisle at the other side.

The number of banks of seats on the main floor shall not exceed fifteen, unless an intervening or cross aisle is provided between each fifteen banks of seats or a direct exit is provided for each aisle.

The number of banks of seats in the balcony shall not exceed nine unless an intervening or cross aisle is provided between each nine banks of seats or a direct exit is provided for each aisle.

SEC. 511. TUNNELS—CROSS AISLES—VERTICAL RISE.

There shall be no more than twelve feet rise measured vertically, in any aisle in any gallery without a direct exit by tunnel or otherwise to a corridor with free opening on to the gallery stairs or other direct discharge to the street, or at such elevation of twelve feet an intervening or cross aisle leading directly to an exit. No tunnel shall be less than three feet wide in the clear.

SEC. 512. FOYER.

No foyer shall be open to the theater proper except through the exits.

SEC. 513. MAIN FLOOR—BALCONY AND GALLERY— DESIGNATION OF.

The lower floor of all theaters shall be designated the "Main Floor."

Where there are balconies or galleries, the first balcony or gallery shall be designated the "Balcony" and the second and third balcony or gallery shall be designated, respectively, "Gallery" and "Second Gallery." Such designation shall be printed plainly on all admission tickets.

SEC. 514. AISLES AND PASSAGEWAYS—KEPT UNOB- STRUCTED.

The minimum width of aisles with diverging sides in any room or auditorium used for the purposes of Class V. shall be two feet eight inches at the end near the stage and not less than three feet at the other end.

The minimum width of aisles with parallel sides shall be three feet.

Every aisle shall lead as nearly as possible directly to an exit, but in no case shall the center line of such exit be more than three feet from the center line of any such aisle leading thereto.

SEC. 515. STEPS IN AISLES.

Steps shall not be permitted in aisles except as extending from bank to bank of seats and no riser shall be greater than seven and three-eighths inches and no tread shall be less than nine and one-half inches, and whenever the rise from bank to bank of seats is less than five inches, the floor of the aisles shall be made as an inclined plane, and where steps are placed in outside aisles or corridors they shall not be isolated, but shall be grouped together and a light shall be maintained so that

every place where there are steps in inclosing aisles or corridors shall be clearly lighted.

SEC. 516. AISLES, PASSAGEWAYS, CORRIDORS AND EXITS.

All aisles, passageways, corridors and exits shall be kept free from camp stools, chairs, sofas and other obstructions, and no person shall be allowed to stand in or occupy any of such aisles, passageways, corridors or exits during any performance, service, exhibition, lecture, concert or any public assemblage.

SEC. 517. CORRIDORS, PASSAGEWAYS, HALLWAYS AND DOORS—WIDTH OF.

The width of corridors, passageways, hallways and doors shall be computed in the same manner as that hereinbefore provided for stairways, excepting, however, that no corridor shall be anywhere less than four feet in width, and no door less than three feet wide, except as otherwise herein provided.

All corridors, passageways, hallways, and stairways, leading from any balcony or gallery to any toilet room, retiring room, smoking room, check room or private office, shall permit of free passage, without returning to an outer exit of the building. Such corridors, passageways, hallways, and stairways shall be at least three feet in width in every part between such balcony or gallery and such outer exit, and shall be unobstructed in every part except by doors, not less than three feet in width, in the clear, which shall swing outward and which shall not be provided with locks or catches of any kind whatever.

SEC. 518. DOORS—ENTRANCE.

The entrance doors to every theater shall be of sufficient width to accommodate the entire audience, computed on the basis of twenty inches of width in the clear to each one hundred permanent seats and in addition thereto a proportionate part of twenty inches for a fractional part of each one hundred seats in the audience room or auditorium.

No mirrors shall be so arranged as to give the appearance of a doorway, exit, hallway or corridor, when no such doorway, exit, hallway or corridor is really in existence, nor shall there be any false doors or windows giving the appearance of an opening where none really exists.

Walls.—Ledges.—See Section 997.

Doors and Windows.—When Required to be closed.—Fire-resisting Glass.—See Section 1049.

SEC. 519. EMERGENCY EXITS—WIDTH—EMERGENCY STAIRS—WIDTH—EMERGENCY EXITS INSIDE WALLS OF BUILDINGS—FIRE ESCAPES, CONSTRUCTION—FIRE ESCAPES LEADING TO STREET OR ALLEY—DOORS OPEN OUTWARD.

Emergency exits and stairways shall be provided separately for each floor, balcony and gallery. They shall be of the same aggregate width as that provided for the main exits, and no

emergency exit, doorway or stairway shall be less than three feet in width. Such emergency stairways shall be made of iron, steel or other incombustible materials. Such emergency exits shall be kept free of obstructions of any kind, including snow and ice.

Such emergency exits and stairways may be built inside the walls of the building, provided they are surrounded by a fire-proof partition not less than four inches thick separating the exits and stairways from the audience room or auditorium.

If such emergency exits lead outside the building, all openings leading thereto shall have metal frames filled with fire-resisting glass doors opening outward hung from the inside corner of the jambs, and so constructed as not to project when opened, beyond the outside face of wall, and outer shutters shall not be permitted.

Whenever any such emergency stairway passes over an exit door or window or other opening, such stairway shall be completely inclosed for a space of five feet greater in width than such opening by iron, steel or other incombustible material.

All such emergency exits and stairways shall land at the ground level in a public thoroughfare or in some space that connects directly with a street or alley and direct and immediate exit to such public thoroughfare shall not be obstructed by any doors, gates, bars or other obstruction of any character.

Every court in which there is an emergency stairway shall have direct and unobstructed access along the surface of the ground to a street, alley or yard opening into an alley, or street, without entering into or passing through or over any building unless by a four-foot wide fireproof passage on the court or ground level.

All doors in openings from any and all exits and stairways shall be so constructed that when opened they shall not obstruct any portion of any other doorway, opening or passageway.

All doors affording ingress to or egress from any theater shall open outward upon suitable hinges.

SEC. 520. EXIT DOORS—PARTICULARS AS TO.

Exit doors shall not be obscured by draperies and shall not be locked or fastened in any manner during the entire time such theater is open to the public, so as to prevent them from being easily opened outwardly; and such doors shall be so constructed and maintained, as to require no special knowledge or effort to open them from the interior.

SEC. 521. WALL—BRICK PROSCENIUM WALL BETWEEN AUDITORIUM AND STAGE—STEEL CURTAIN FIRE-PROOFED ON STAGE SIDE—NO COMBUSTIBLE MATERIAL ON AUDIENCE SIDE—PLANS FOR CURTAIN—PERMIT FROM BUILDING DEPARTMENT.

There shall be in every theater a solid brick wall of the same construction and thickness as is required in outside walls be-

tween the auditorium and the stage. The main proscenium opening shall have a substantial steel curtain vertically operated and fireproofed on the stage side, which shall be raised and lowered by mechanical power and which shall be in constant use as the regular curtain and act drop.

No combustible material other than painted decorations shall be applied to the audience side of such curtains.

Plans for such curtain shall be approved by the Building Department and a permit obtained for its erection. The Building Department shall inspect such curtain semi-annually, for which inspection a fee of two (\$2) dollars shall be charged.

All other openings in such proscenium wall shall have iron doors, frames and thresholds.

SEC. 522. STAGE, CONSTRUCTION OF—FIRE PROOF PAINT—SCENERY—HOW TREATED.

The framing of the floor of every stage shall be of iron or steel. The stage floor may be of wood, but shall not be less than two and three-fourths inches thick. The entire floor construction and floor of fly galleries, rigging lofts and paint gallery, all railings and supports and stanchions thereon, and all sheaves, pulleys and cables and their supports shall be of iron or steel. All woodwork including the under side of floor boards, and all framing for scenery used on or about the stage shall be coated with a fireproof paint, the qualities of which shall be submitted to and approved by the Commissioner of Buildings. All wood used for floor and floor supports shall be coated on the underside with the same kind of paint.

No scenery or stage paraphernalia of any sort shall be used upon the stage of any room used for the purposes of Class V., unless such scenery and paraphernalia shall have been treated with a paint or chemical solution which shall make it non-inflammable, and which treated scenery or stage paraphernalia or both, shall be tested and approved by the Fire Marshal.

SEC. 523. VESTIBULE OF STAGE DOORS.

All doorways or openings in the rear or sides of the stage shall be vestibuled or protected in a manner satisfactory to the Commissioner of Buildings so as to protect the curtain, scenery and auditorium against draughts of air.

SEC. 524. VENTS—FLUE PIPES, SIZE OF—DAMPERS—SWITCHES FOR DAMPERS.

One or more vents, or flue pipes, of metal construction, or other incombustible material, suitable for carrying away smoke, approved by the Commissioner of Buildings and extending not less than fifteen feet above the highest point of the roof, and equivalent in area to one-twentieth of the area of the stage shall be built over the stage.

In buildings where additional stories are built above the stage, such vents or flue pipes may be carried out near the top of the stage walls and shall be continued and run up on the

exterior of the building to a point five feet above the highest point of such additional stories.

All such flues or vents shall be provided with metal dampers, and shall be opened by a closed circuit battery, approved by the City Electrician; such dampers shall be controlled by two switches, one at the electrician's station on the stage, which station shall be fireproof, and the other at the city fireman's station on the opposite side of the stage; such switches shall be located at such places on the stage as are designated by the Fire Marshal, and each shall have a sign with plain directions as to the operation of same printed thereon.

All fuse boxes shall be surrounded by two thicknesses of fire-proof material, with an air space between, and no fuses shall be exposed to the air between the switch boards.

SEC. 525. AUTOMATIC SPRINKLERS—LOCATION OF—TANK—CONNECTIONS.

There shall be provided approved system of automatic sprinklers, with approved automatic closed circuit electric devices connecting the valves regulating the flow of water in the various sprinkler pipes, with the headquarters of the city fire alarm telegraph and such other place or places as the Fire Marshal shall direct, so arranged as to prevent any tampering with the system or the shutting off of the water from the sprinkler pipes without automatic notice to the Fire Department.

Such system of automatic sprinklers shall be supplied with water from a tank located not less than twenty feet above the level of the highest sprinkler head in the system, and it shall be the duty of the fireman provided for in this ordinance to include in his daily report the result of an inspection to determine the sufficiency of water in this tank. Automatic sprinklers shall be placed in the paint room, store room, property room, scene-storage room, carpenter shop and dressing rooms, if such rooms are in or connected with a building used for the purposes of Class V., such tank shall not be connected with a stand pipe and ladder system, but shall be filled through a separate pipe from a fire pump, and a three-inch iron pipe shall extend from such tank to the outside of such building, with Siamese connections for fire department use. Such entire automatic sprinkler system and equipment and the location thereof shall be subject to the approval of the Fire Marshal.

SEC. 526. FIRE APPARATUS ON STAGE—HAND FIRE PUMPS—FIRE MATERIALS—HOT AIR FURNACES.

A standpipe not less than two and one-half inches in diameter, having a hose valve or valves thereon, shall be installed on each side of the stage, with a hose connection at the stage and at each level above and below the stage, and hose connected thereto at each valve ready for use at all times. Such standpipe shall be connected with a tank on the roof containing not less than three thousand gallons of water, protected from frost,

and also with a power pump, all of which shall be subject to the approval of the Fire Marshal. Portable fire extinguishers or hand fire pumps shall always be kept ready for use on and under the stage; in fly galleries and in rigging lofts, and in addition thereto at least four fire department axes and six pike poles shall be kept ready for use on each tier or floor of the stage, all of which shall be subject to the approval of the Fire Marshal.

The use of ordinary hot air furnaces or stoves is prohibited.

SEC. 527. EXITS—DIAGRAM OF, PRINTED ON PROGRAM.

It shall be the duty of the owner, lessee or manager of any theater, for any performance in which programs are issued, to cause to be printed on such programs, on the page opposite that upon which the cast is printed, a diagram showing conspicuously all exits of such building. A diagram of seats of each floor, and the exits leading from each floor drawn to a scale one-eighth inch to the foot, shall be hung in a frame within two feet of the ticket seller's window and so as to be easily seen by the public.

SEC. 528. LIGHTING—INDEPENDENT LIGHTING SYSTEM FOR EXITS—RED LIGHT OVER EXITS.

All stairways and corridors shall be supplied with a supplementary lighting system of electricity, gas or sperm oil, and such system shall be independent of all other lights in such building and shall be in operation during the entire period such theater is open to the public and until the audience has left the building. The word "EXIT" shall be in letters at least six inches high over the opening to every means of egress from such theater and a red light furnished by gas or sperm oil shall be kept burning over such word "EXIT" at every such opening, during the entire period such theater is open to the public and until the audience has left the building.

SEC. 529. FIRE ALARM APPARATUS.

Every theater shall be provided with an approved system of automatic or manual fire alarm telegraph apparatus, connected by the necessary wires with the headquarters of the city fire alarm telegraph and such other place or places as the Fire Marshal may direct. The number and location of the boxes and the character of the system, whether automatic or manual, or both, shall be determined by the Fire Marshal.

SEC. 530. FIREMEN, EMPLOYMENT OF—DUTIES.

It shall be the duty of every person, or corporation, conducting, maintaining or operating a theater, to employ one competent, experienced fireman, who shall be detailed by the Fire Marshal from the regular City Fire Department; shall be in the uniform of the Chicago Fire Department; shall be on duty at such theater during the whole time it is open to the public; shall report to and be subject to the orders of the Fire Marshal; shall see that all fire apparatus required by this ordinance

is in its proper condition, ready for use; all exit doors unlocked during the whole time such theater is open to the public and all in efficient and ready working order.

The compensation to be paid the city for the services of such city fireman so detailed and employed shall be based on the regular salary paid by the city to such fireman and shall be computed according to the ratio between the number of hours such fireman is employed at such theater and the total number of hours such fireman is employed by the city for all purposes.

It shall also be the duty of every person, or corporation, conducting, maintaining or operating a theater, to employ, in addition to the fireman employed, by such persons and detailed by the Fire Marshal, one other experienced and competent person as a private watchman or fireman, who shall be approved by the Fire Marshal; shall be in distinctive uniform; shall be on duty at such theater during the whole time it is open to the public; shall report to and be subject to the orders of the Fire Marshal, and whose duty it shall be to see that the provisions of this ordinance are complied with in all portions of the theater occupied and used by the public; shall see that all exit doors are unlocked during the whole time such theater is open to the public and in efficient and ready working order. The city fireman and Fire Marshal shall require a drill of the employes of such theater, including such private watchman or fireman, in the use of all apparatus and appliances for the prevention of fire inside the building and the saving of life, at least twice in every week, and such city fireman shall report to the Fire Marshal the manner and efficiency of such drill. Such city fireman shall report in writing, daily, to the Fire Marshal the condition and equipment of the theater to which he is detailed. No city fireman shall be on duty at any one theater for a longer period than two (2) weeks.

SEC. 531. AMUSEMENT LICENSE.

The amusement license issued for each theater shall state the number of permanent seats the theater contains, which number shall be governed by the provisions of this ordinance relating thereto, and no more than that number of persons shall be permitted to be in such theater at any one time.

No license for the operation of a theater shall be issued unless the Commissioner of Buildings, Fire Marshal and the City Electrician shall first have certified, in writing, that such theater complies with the provisions of this ordinance in every respect.

SEC. 532. LIGHTING—ALL PARTS WELL LIGHTED DURING PERFORMANCES.

Every portion of any theater devoted to the use or accommodation of the public and all outlets therefrom leading to the streets, including all open courts, corridors, stairways, exits and emergency exit stairways, shall be well and properly lighted during every performance, and the same shall remain lighted until the entire audience has left the premises.

SEC. 533. LIGHTS—CONTROL OF LIGHTS IN HALLS,
CORRIDORS AND LOBBIES—SEPARATE SHUT-OFF—
CONNECTIONS WITH GAS MAINS—INDEPENDENT
CONNECTIONS—PROTECTION OF SUSPENDED
AND BRACKET LIGHTS—PROTECTION OF
LIGHTS INSERTED IN WALLS—PROTECTION
OF FOOTLIGHTS—CONSTRUCTION OF BOR-
DER LIGHTS—DUCTS AND SHAFTS CON-
DUCTING HEATED AIR FROM LIGHTS
—GAS STAGE LIGHTS TO HAVE
METAL SCREENS.

All gas or electric lights in the halls, corridors, lobbies or any other part of any theater used by the audience, except the auditorium, shall be controlled by a separate shut off, located in the lobby, and controlled only in that particular place. Gas mains supplying such theater shall have independent connections for the auditorium and stage, and provision shall be made for shutting off the gas from the outside of the building. All suspended or bracket lights surrounded by glass in the auditorium, or in any other part of the theater, shall be provided with proper wire netting underneath. No gas or electric lights shall be inserted in the walls, woodwork, ceiling, or in any part of the theater, unless protected by fireproof materials. In case gas is used, the footlights, in addition to the wire network, shall be protected by a strong wire guard not less than two feet distant from such footlights, and the trough containing such footlights shall be formed of and surrounded by fireproof material. All border lights shall be constructed according to the best known method, and subject to the approval of the Fire Marshal and the City Electrician, and shall be suspended by wire rope. All ducts and shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between. All gas stage lights shall have strong metal wire guards or screens not less than ten inches in diameter, so constructed that any material coming in contact therewith shall be out of reach of the flames of such lights, and shall be soldered to the fixtures in all cases.

The use of calcium lights in any theater is prohibited. All are lights used on the stage shall at all times be subject to the approval of the City Electrician, and no are lights shall be used on any stage unless approved by said City Electrician.

SEC. 534. FIRE APPARATUS—UNDER CONTROL OF FIRE
DEPARTMENT.

The standpipes, automatic sprinklers, gas pipes, electric wires, hose, footlights, fire alarm boxes, fireproof proscenium curtain, switch boxes, ventilators, controlling levers, axes and pike poles, and all apparatus for the extinguishing of fire or guarding against the same, as provided for by this ordinance, shall be

made and kept at all times in condition satisfactory to and under the control of the Fire Marshal.

SEC. 535. OFFICERS EMPOWERED TO ENTER BUILDINGS.

The Commissioner of Buildings, Fire Marshal, City Electrician, Superintendent of Police, or any of them, and their respective assistants, shall have the right to enter any building used wholly or in part for the purposes of Class V., and any and all parts thereof, at any reasonable time, and at any time when occupied by the public, in order to examine such buildings; to judge of the condition of the same and to discharge their respective duties, and it shall be unlawful for any person to interfere with them, or any of them, in the performance of their duties.

SEC. 536. THE COMMISSIONER OF BUILDINGS, FIRE MARSHAL, CITY ELECTRICIAN OR SUPERINTENDENT OF POLICE SHALL CLOSE BUILDINGS FOR VIOLATIONS.

The Commissioner of Buildings, Fire Marshal, City Electrician and the Superintendent of Police, or any one of them, shall have the power and it shall be their joint and several duty, to order any building used wholly or in part for the purposes of Class V., closed, where it is discovered that there is any violation of any of the provisions of this ordinance, and keep same closed until such provisions are complied with.

SEC. 537. LICENSE—MAYOR SHALL REVOKE.

Upon a report to the Mayor by the Commissioner of Buildings, Fire Marshal, City Electrician or the Superintendent of Police that any requirement of this ordinance or that any order given by them or any of them in regard thereto has been violated, or not complied with, the Mayor shall revoke the license of any such theater or place of amusement so reported and cause the same to be closed.

SEC. 538. BUILDINGS OF CLASS V. HEREAFTER ERECTED.

The following provisions shall apply to buildings hereafter erected and used wholly or in part for the purposes of Class V.:

SEC. 539. WALLS—OUTSIDE WALLS—STRUCTURES BUILT ABOVE.

The outside walls of all such buildings, the roofs or ceilings of which are carried on trusses or girders of a span of fifty feet or more, shall be as follows:

If such walls are less than twenty-five feet high, they shall not be less than twenty inches thick.

If they are more than twenty-five feet and less than forty-five feet high, they shall not be less than twenty-four inches thick.

If they are more than forty-five feet and less than sixty feet high, they shall not be less than twenty-eight inches thick.

If they are more than sixty feet and less than seventy-five feet high, they shall not be less than thirty-two inches thick.

If they are more than seventy-five feet and less than ninety feet high, they shall not be less than thirty-six inches thick.

An increase of four inches in thickness of such walls shall be made in all cases where they are over one hundred feet long without cross walls of equal height.

The thickness of the enclosing or surrounding walls of rooms used for the purposes of Class V., where such rooms are less than fifty feet wide, may be reduced by four inches.

If one or more stories are built above any room devoted to the uses of Class V., and such stories are carried on trusses or girders, the thickness of walls shall be increased by four inches for each two stories or part thereof above such room.

If solid masonry buttresses are employed and placed eighteen feet or less apart, and extended to the foot of the trusses or girders carrying the ceiling, or if iron or steel columns are inserted in such walls for the support of the superstructure, and at distances not more than twenty-four feet between centers, and if such columns extend to and carry the superimposed trusses or girders, the thickness of such walls may be reduced in proportion to the increase of strength afforded by such buttresses or columns, but in no case shall any such wall be less than twelve inches thick in the top story, and four inches shall be added going downward, for each story, for each gallery, or for each twenty-five feet in height of wall.

SEC. 540. COLUMNS IN WALLS.

If iron or steel columns are introduced in such walls, the brickwork around such columns shall be bonded into the brickwork of the connecting wall, and each of such columns shall be fireproofed, as provided in Section 912 of this ordinance.

Walls around stairs, elevators and shafts. See Section 998.

SEC. 541. FRONTAGE—OPEN SPACES AND ENCLOSED PASSAGES.

All buildings used wholly or in part for the purposes of Class V., hereafter erected shall be located so that they adjoin at least two public thoroughfares, one of which shall be a public street, and the other may be a public alley not less than ten (10) feet in width.

All floors, balconies and galleries of the audience room of every theater shall have open spaces or fireproof passageways on the three sides other than the proscenium; and on each of the two opposite sides other than the back and proscenium of every stage there shall be open spaces or fireproof passageways, and such open spaces or fireproof passageways shall open on or connect directly with the public thoroughfares.

All open spaces shall not be less than ten (10) feet in width and all fireproof passageways shall be not less than eight (8) feet in width, and shall be outside of the audience room, and shall be kept and maintained free and clear of obstructions of any and all kinds at any and all times.

All open spaces shall be open and unobstructed from the floor or pavement of such space to the sky, with the exception that

emergency stairs and emergency balconies may be built in such open spaces. The entire floor of every open space shall be level, or inclined; the incline shall not exceed two (2) inches in height for each one foot of horizontal measurement.

If one or more fireproof passageways are required on one side of the stage, then, the fireproof passageways of each floor and the balcony and each gallery of the audience room shall be continued through the stage house as fireproof passageways to an open space or public thoroughfare, and from the end of each such fireproof passageway there shall be doors or stairs, or both, which shall be arranged so as to afford a safe exit for the audience of such theater to the pavement of the public thoroughfares, and if fireproof passageways are required on both sides of the stage, then they shall be arranged and connected with all of the fireproof passageways on both sides of the audience room in the same manner as described for fireproof passageways when these are required only on one side of the stage.

The fireproof passageways for the main floor may pass under the stage floor.

Provided, however, that where there is no public thoroughfare or open space at the back of the stage and on one side of the stage, then the fireproof passageways for the main floor shall be on the stage floor and shall be built along that side of the stage on which there is no public thoroughfare and across the back of the stage to one of the public thoroughfares, and the fireproof passageways for the balcony and the fireproof passageways for the galleries shall each be built along the side of the stage and across the back of the stage in a continuation of the balcony and gallery floor level to a public thoroughfare.

The fireproof passageways of the different floors, of the balcony and of the galleries, shall be independent of each other and shall not be connected with each other in any manner.

No doors or other openings except entrance doors from the audience room or exit doors to a thoroughfare shall be in the walls of a fireproof passageway; and all such doors shall be so arranged that when open they shall not obstruct the passage.

The walls of a fireproof passageway shall be not less than four (4) inches thick, and each and every part of such passageway, including each and all of its supports, shall be built of fireproof construction as required in the General Provisions relating to fireproof construction of this ordinance.

Radiators for warming passageways shall be in recesses.

There shall be no steps or risers in a fireproof passageway, but where necessary inclined floors of the full width of the fireproof passageways may be built; the incline of the floor shall not exceed two and one-half ($2\frac{1}{2}$) inches in height per foot measured horizontally, and no such incline shall be less than ten (10) feet in length. No fireproof passageway shall be less than eight (8) feet high in any part thereof, except at doors, and these shall not be less than seven (7) feet high.

If the principal entrance corridor of a theater is at one

side of the audience room, then the center line extended of such principal entrance shall intersect the center axis of the stage and the audience room between the back of the seat most remote from the stage on said center axis of the stage and the audience room, and a point midway between such seat and the wall opposite the proscenium wall.

SEC. 542. CONSTRUCTION.

All such buildings shall be built entirely of fireproof construction.

SEC. 543. BUILDINGS OF OTHER CLASSES BUILT IN CONJUNCTION WITH CLASS V.

If buildings used wholly or in part for purposes of Class V. are built in conjunction with or as part of buildings devoted to the uses of other classes, then such buildings of other classes shall be built entirely of fireproof construction.

SEC. 544. FLOOR LEVELS—LIMITATION OF.

In all cases where the floors of the auditorium of any theater in any such building of Class V., are banked or stepped up, the floor level of the lowest bank shall not be above the sidewalk level.

All floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of floor construction, permanent fixtures and mechanisms that may set upon the same, a live load of one hundred pounds for every square foot of surface in such floors.

The audience room or rooms or auditorium or auditoriums used for the purposes of Class V. containing, in the aggregate, not more than five hundred seats, if in a fireproof building, may be located in any story thereof, but in such case there shall be at least two separate stairways from the floor or floors in which such audience room or auditorium is located to the ground, each of which stairways shall be not less than four feet in width in the clear. All floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of floor construction, permanent fixtures and mechanisms that may be set upon the same, a live load of one hundred pounds for every square foot of surface in such floors.

SEC. 545. STAIRWAYS—ENTRANCE AND EXITS.

Stairways affording ingress to or egress from any room used for the purpose of Class V. shall be in width equivalent to twenty inches for every one hundred of seating capacity of such room, and for fractional parts of one hundred a proportionate part of twenty inches of width shall be added, but in no event shall any such stairway be less than four feet wide in the clear, except as hereinafter provided.

All such stairways shall have hand railings on each side thereof, and shall not ascend a greater height than thirteen feet six inches without a level landing, and the length and width of such landing shall be not less than the width of the

stairs; no run of stairs shall consist of less than six risers between platforms, and risers shall not be placed on return platforms. Stairways which are over seven feet wide shall have double intermediate handrails with end newel posts at least five and one-half feet high.

Steps shall not have a greater rise than seven and three-eighths inches, treads shall not be narrower than eleven inches, and winders shall not be used on any staircase.

Each and every balcony and gallery shall have separate and distinct entrances and stairways from the sidewalk level. The bottom run of the stairs shall be directly toward the street. Such stairs may ascend from the vestibule or entrance inside of the building, but the bottom riser of such stairs shall not be more than sixty-five feet from the building line. All doors between such stairs and the street shall be kept unlocked and unfastened during each and every performance and until the audience has left the building.

There shall be an iron stairway or stairways from the stage to the fly gallery and gridiron, continuing to the roof of the building or to some fireproof passageway or exit. Such stairway may be circular. Such circular stairways, however, shall not be used for access to the dressing rooms.

Stairs leading to a box or boxes seating not to exceed thirty people in the aggregate shall be independent of all other stairs and seats, and not less than two feet eight inches wide in the clear. For each additional twenty-five of seating capacity or major portion thereof in such box or boxes there shall be an additional five inches in width of such stairway.

All stairways on the stage side of the proscenium wall shall be not less than two feet six inches wide.

SEC. 546. FLOORS AT EXITS.

Floors at all exits shall be so designed as to be level and flush with adjacent floors and shall extend for an unbroken width of not less than four feet in front of each exit, and shall be two feet wider than such exit.

SEC. 547. SEATING.

More than ten seats in any one row between aisles shall not be lawful.

Seats shall be not less than twenty-two inches in width, measured at the top of the seat backs.

Rows of seats shall be not less than two feet ten inches from back to back.

No bank of seats shall have a greater rise than twenty-two inches.

All groups of seats shall be so arranged that there shall be an aisle at each side of each group, provided groups of five seats or less may abut upon a tunnel at one side and an aisle at the other side.

The number of banks of seats on the main floor shall not exceed fifteen, unless an intervening or cross aisle is provided between each fifteen banks of seats or a direct exit is provided

for each aisle. The number of banks of seats in the "balcony" shall not exceed nine, unless an intervening or cross aisle is provided between each nine banks of seats or a direct exit is provided for each aisle.

SEC. 548. TUNNELS—CROSS AISLES—VERTICAL RISE.

There shall be no more than eleven feet rise, measured vertically, in any aisle in any gallery without a direct exit by tunnel or otherwise, to a corridor with free opening onto the gallery stairs or other direct discharge to the street, or at any such elevation of eleven feet an intervening or cross aisle leading directly to an exit. No tunnel shall be less than three feet wide in the clear.

SEC. 549. FOYER.

No foyer shall be open to the theater proper except through the exits.

SEC. 550. MAIN FLOOR—BALCONY AND GALLERY—DESIGNATION OF.

The lower floor shall be designated the "Main Floor."

Where there are balconies or galleries, the first balcony or gallery shall be designated the "Balcony," and the second and third balcony or gallery shall be designated, respectively, "Gallery" and "Second Gallery." Such designations shall be printed plainly on all admission tickets.

SEC. 551. AISLES AND PASSAGEWAYS—KEPT UNOBSTRUCTED.

The minimum width of aisles with diverging sides in any room or auditorium used for the purposes of Class V., shall be two feet eight inches at the end near the stage, and not less than three feet at the other end.

The minimum width of aisles with parallel sides shall be three feet.

Every aisle shall lead directly to an exit.

SEC. 552. STEPS IN AISLES.

Steps shall not be permitted in aisles except as extending from bank to bank of seats, and no riser shall be more than seven and three-eighths inches in height, and no tread shall be less than ten inches in width, and whenever the rise from bank to bank of seats is less than five inches, the floor of the aisles shall be made as an inclined plane; and where steps are placed in outside aisles or corridors, they shall not be isolated, but shall be grouped together, and a light shall be maintained so that every place where there are steps in enclosing aisles or corridors shall be clearly lighted.

SEC 553. AISLES—PASSAGEWAYS—CORRIDORS—EXITS—TO BE KEPT UNOBSTRUCTED.

All aisles, passageways, corridors and exits shall be kept free from camp stools, chairs, sofas and other obstructions, and no person shall be allowed to stand in or occupy any of such aisles,

passageways, corridors or exits during any performance, service, exhibition, lecture, concert, or at any public assemblage.

SEC. 554. CORRIDORS—PASSAGEWAYS—HALLWAYS AND DOORS—WIDTH OF.

The width of corridors, passageways, hallways and doors shall be computed in the same manner as that hereinbefore provided for stairways, excepting, however, that no corridors shall be anywhere less than three feet wide, except as otherwise herein provided.

All corridors, passageways, hallways, and stairways leading from any balcony or gallery to any toilet room, retiring room, smoking room, cloak room, check room, or private office, shall permit of free passage, without returning, to an outer exit of the building. Such corridors, passageways, hallways and stairways shall be at least three feet in width in every part between such balcony or gallery and such outer exit, and shall be unobstructed in every part, except by doors not less than three feet in width in the clear, which shall swing outward and which shall not be provided with locks or catches of any kind whatever.

SEC. 555. DOORS—ENTRANCE.

The entrance doors to every theater shall be of sufficient width to accommodate the entire audience, computed on the basis of twenty inches of width in the clear to each one hundred permanent seats or proportionate part thereof in the audience room or auditorium of such theater, and all doors shall be so arranged that when open they shall not obstruct any corridor or passage whatsoever into which they open.

No mirrors shall be so arranged as to give the appearance of a doorway, exit, hallway or corridor, when no such doorway, exit, hallway or corridor is really in existence, nor shall there be any false doors or windows giving the appearance of an opening where none really exists.

**SEC. 556. EMERGENCY EXITS, WIDTH—EMERGENCY STAIRS, WIDTH—EMERGENCY EXITS INSIDE WALLS..
OF BUILDINGS—FIRE ESCAPES, CONSTRUCTION
—FIRE ESCAPES LEADING TO STREET OR
ALLEY—DOORS OPEN OUTWARD.**

Emergency exits and stairways shall be provided separately for each floor, balcony or gallery. They shall be of the same size as that provided for the main exits, and no emergency exit, doorway or stairway shall be less than three feet in width. Such emergency stairway shall be made of iron, steel, or other incombustible material. Such emergency exit shall be kept free of obstructions of any kind, including snow and ice.

Such emergency exits and stairways may be built inside the walls of the building, provided they are surrounded by a fire-proof partition not less than four inches thick, separating the exits and stairways from the audience room or auditorium.

If such emergency exits lead outside the building, the open-

ings leading thereto shall have metal door frames and metal doors with panels filled with fireresisting glass, opening outward, hung from the inside corner of the jambs, and so constructed as not to project when opened beyond the outside face of the wall, and outer shutters shall not be permitted.

Whenever any such emergency stairway passes over an exit or door or window or other opening, such stairway shall be completely enclosed for a space of five feet greater in width than such opening, by iron, steel or other incombustible material.

All such emergency exits and stairways shall land at the ground level in a public thoroughfare or in some space that connects directly with a street or alley, and direct and immediate exit to such public thoroughfare shall not be obstructed by any door, gate, bars or other obstruction of any character.

Every court in which there is an emergency stairway shall have direct and unobstructed access along the surface of the ground to a street, alley, or yard opening into an alley or street, without entering into or passing through or over any building unless by a four foot wide fireproof passage on the court or ground level.

All doors in openings from emergency exits and stairways shall be so constructed that when opened they will not obstruct any portion of any other doorway, opening or passageway.

All doors affording ingress to or egress from any theater shall open outward upon suitable hinges.

Exit doors shall not be obscured by draperies and shall not be locked or fastened in any manner during the entire time such theater is open to the public, so as to prevent them from being easily opened outwardly; and such doors shall be so constructed and maintained as to require no special knowledge or effort to open them from the interior.

SEC. 557. WALL—BRICK—PROSCENIUM BETWEEN AUDITORIUM AND STAGE—STEEL CURTAIN FIRE-PROOFED ON STAGE SIDE—NO COMBUSTIBLE MATERIAL ON AUDIENCE SIDE—PLANS FOR CURTAIN—PERMIT FROM BUILDING DEPARTMENT.

There shall be a solid brick wall of the same construction and thickness as is required in the outside walls of the building in which such theater is located between the auditorium and the stage.

The main proscenium opening shall have a vertically operated steel curtain which shall, when it is lowered, completely close such proscenium opening. The curtain shall be raised and lowered by mechanical power, other than hand power, as the regular curtain and act drop each and every time there is an audience in the theater.

The lowering of the curtain shall be controlled from not less than two points in the building, one of which shall be designated by the Commissioner of Buildings.

The curtain shall have a steel covering on the outer (or auditorium) side. The stage side covering shall be of a non-conducting substance of such a thickness and such material as shall stand a test of two thousand degrees F. on the stage side for fifteen minutes and without heating the opposite side to a higher temperature than three hundred and fifty degrees F.

All metal work with the exception of the frame shall be covered with the non-conducting substance on the stage side.

The curtain shall operate vertically in steel guides of such a cross section that the edges shall engage and secure the edges of the curtain and prevent the curtain from leaving the guiding channel or channels if the curtain should tend to buckle or bag either inward or outward. No metal in the guide channels or in the engaging edge of the curtain shall be less than three-eighths ($\frac{3}{8}$) of an inch thick. The joints of the curtain with the proscenium wall, with the stage floor and with the head of the opening shall be made gas tight as nearly as practicable.

The calculations for the strength of the curtain, the curtain guides and the guide anchors, and the workmanship shall be according to the best modern engineering practice, the stresses in the material and in the various sections of steel shall be within the safe limits of stress described in this ordinance.

No part of a curtain or of the curtain guides may be supported by or fastened to any combustible material.

The supports of the curtain and the curtain guides and edges and the curtain shall be of sufficient strength to safely resist a pressure of twenty (20) pounds for each and every square foot of the curtain either inward or outward, if such curtain does or does not bag.

No combustible material other than painted decorations shall be applied to the audience side of any such curtain.

Plans for every such curtain shall be approved by the Building Department and a permit obtained for its erection. The Building Department shall inspect such curtain semi-annually, and for each such inspection a fee of two (\$2) dollars shall be charged.

All other openings in such proscenium wall shall have self-closing, regulation standard iron fire doors and iron frames and thresholds; such doors and frames shall be built in such a manner as to resist warping.

SEC. 558. STAGE, CONSTRUCTION OF—FIREPROOF PAINT—SCENERY—HOW TREATED.

The framing of the floor of every stage shall be of iron or steel or fireproof material. The stage floor may be of wood, but shall not be less than two and three-fourths inches thick. The entire floor construction and floor of fly galleries, rigging lofts and paint galleries, all railings and supports and stanchions thereon, and all sheaves, pulleys and cables and their supports shall be of iron or steel. All woodwork, including the under side of floor boards, and all framing for scenery used on or about the stage shall be coated with a fireproof paint, the quali-

ties of which shall be submitted to and approved by the Commissioner of Buildings. All wood used for floor and floor supports shall be coated on the under side with the same kind of paint.

No scenery or stage paraphernalia of any sort shall be used upon the stage of any room used for the purposes of Class V., unless such scenery and paraphernalia shall have been treated with a paint or chemical solution which shall make it non-inflammable, and which treated scenery or stage paraphernalia, or both, shall be tested and approved by the Fire Marshal.

SEC. 559. VESTIBULES FOR STAGE DOORS.

All doorways or openings in the rear or sides of the stage shall be vestibuled or protected in a manner satisfactory to the Commissioner of Buildings, so as to protect the curtain, scenery and auditorium against draughts of air.

SEC. 560. STRUCTURE OVER CEILING—CONSTRUCTION.

If any structure is built over the ceiling or roof of any theater, the different members of the girders or trusses supporting same shall have their fireproofing double, in the manner prescribed for columns of fireproof buildings as specified in the General Provisions of this ordinance.

SEC. 561. VENTS—SIZE OF—FLUE PIPES—DAMPERS—SWITCHES FOR DAMPERS.

One or more vents or flue pipes of metal construction, or other incombustible material, suitable for carrying away smoke, and approved by the Commissioner of Buildings, and extending not less than fifteen feet above the highest point of the roof, and equivalent in area to one-twentieth of the area of the stage, shall be built over the stage.

In buildings where additional stories are built above the stage, such vents or flue pipes may be carried out near the top of the stage walls and shall be continued and run up on the exterior of the building to a point five feet above the highest point of such additional story.

All such flues or vents shall be provided with metal dampers, and shall be opened by a closed circuit battery, approved by the City Electrician.

Such dampers shall be controlled by two switches, one at the electrician's station on the stage, which station shall be fireproof, and the other at the city fireman's station, on the opposite side of the stage; such switches shall be located in such places on the stage as are designated by the Fire Marshal, and each shall have a sign with plain directions as to the operation of the same printed thereon.

All fuse boxes shall be surrounded by two thicknesses of fireproof material, with an air space between, and no fuses shall be exposed to the air between the switchboards.

SEC. 562. AUTOMATIC SPRINKLERS—LOCATION—TANK—CONNECTIONS.

There shall be provided an approved system of automatic

sprinklers with approved automatic closed circuit electric devices connecting the valves, regulating the flow of water into the various sprinkler pipes with the headquarters of the city fire alarm telegraph and such other place or places as the Fire Marshal shall direct, so arranged as to prevent any tampering with the system or the shutting off of the water from the sprinkler pipes without automatic notice to the Fire Department.

Such system of automatic sprinklers shall be supplied with water from a tank located not less than twenty feet above the level of the highest sprinkler head in the system, and it shall be the duty of the firemen provided for in this ordinance to include in their daily report the result of an inspection to determine the sufficiency of water in this tank. Automatic sprinklers shall be placed in the paint room, store room, property room, scene storage room, carpenter shop and dressing rooms, if such rooms are in or connected with a building used for the purposes of Class V. Such tank shall not be connected with a standpipe and ladder system, but it shall be filled through a separate pipe from a fire pump, and a three-inch iron pipe shall extend from such tank to the outside of such building with Siamese connections for fire department use. Such entire automatic sprinkler system and equipment and the location thereof shall be subject to the approval of the fire marshal.

SEC. 563. FIRE APPARATUS ON STAGE—HAND FIRE PUMPS—FIRE MATERIALS—HOT AIR FURNACES.

A standpipe not less than three inches in diameter, having a hose valve or valves thereon, shall be installed on each side of the stage with a nose connection at the stage and at each level above and below the stage, and hose connected thereto at each valve ready for use at all times. Such standpipes shall be connected with a tank on the roof containing not less than three thousand gallons of water, protected from frost, and such tank shall be connected with and supplied by a power pump, all of which shall be subject to the approval of the Fire Marshal. Portable fire extinguishers or hand fire pumps shall always be kept ready for use on and under the stage, in fly galleries and in rigging loft, and in addition thereto at least four fire department axes and six pike poles shall be kept ready for use on each tier or floor of the stage, all of which shall be subject to the approval of the Fire Marshal.

The use of ordinary hot air furnaces or stoves is prohibited.

SEC. 564. EXITS—DIAGRAMS OF—PRINTED ON PROGRAMS.

It shall be the duty of the owner, lessee or manager of any theater, for any performance in which programs are issued, to cause to be printed on such programs on the page opposite that on which the cast is printed, a diagram showing conspicuously all exits of such building. A diagram of seats on each floor, and the exits leading from each floor drawn to a scale of one-

eighth inch to the foot, shall be hung in a frame within two feet of the ticket seller's window and so as to be easily seen by the public.

SEC. 565. INDEPENDENT LIGHTING SYSTEM FOR EXITS—RED LIGHT OVER EXITS.

All stairways and corridors shall be supplied with a supplementary lighting system of electricity, gas or sperm oil, and such system shall be independent of all other lights in such building, and shall be in operation during the entire period such theater is open to the public and until the audience has left the building. The word "EXIT" shall be in letters at least six inches high over the opening to every means of egress from such theater and a red light furnished by gas or sperm oil, shall be kept burning over such word "EXIT" at every such opening, during the entire period such theater is open to the public and until the audience has left the building.

SEC. 566. FIRE ALARM APPARATUS.

Every theater shall be provided with an approved system of automatic or manual fire alarm telegraph apparatus, connected by the necessary wires with the headquarters of the city fire alarm telegraph and such other place or places as the Fire Marshal shall direct. The number and location of the boxes and the character of the system, whether automatic or manual, or both, shall be determined by the Fire Marshal.

SEC. 567. FIREMEN—EMPLOYMENT OF—DUTIES OF.

It shall be the duty of every person, or corporation, conducting, maintaining, or operating a theater to employ one competent, experienced fireman, who shall be detailed by the Fire Marshal from the regular City Fire Department; shall be in the uniform of the Chicago Fire Department; shall be on duty at such theater during the whole time it is open to the public; shall report to and be subject to the orders of the Fire Marshal; shall see that all fire apparatus required by this ordinance is in its proper position, ready for use; all exit doors unlocked during the whole time such theater is open to the public, and all in efficient and ready working order.

The compensation to be paid the city for the services of such city fireman so detailed and employed shall be based upon the regular salary paid by the city to such fireman and shall be computed according to the ratio between the number of hours such fireman is employed at such theater and the total number of hours such fireman is employed by the city for all purposes.

It shall also be the duty of every person or corporation conducting, maintaining or operating a theater, to employ, in addition to the fireman employed by such persons, and detailed by the Fire Marshal, one other experienced and competent person as a private watchman or fireman, who shall be approved by the Fire Marshal; shall be in a distinctive uniform; shall be on duty at such theater during the whole time it is open to the public; shall report to and be subject to the orders of the Fire Marshal,

and whose duty it shall be to see that the provisions of this ordinance are complied with in all portions of the theater occupied and used by the public; shall see that all exit doors are unlocked during the whole time such theater is open to the public, and in efficient and ready working order. The city fireman and Fire Marshal shall require a drill of the employes of such theater, including such private watchman or fireman, in the use of all apparatus and appliances for the prevention of fire inside the building and the saving of life, at least twice in every week, and such city fireman shall report to the Fire Marshal the manner and efficiency of such drill. Such city fireman shall report in writing, daily, to the Fire Marshal the condition and equipment of the theater to which he is detailed. No city fireman shall be on duty at one theater for a longer period than two (2) weeks.

SEC. 568. AMUSEMENT LICENSE.

The amusement license issued for each theater shall state the number of permanent seats it contains, which number shall be governed by the provisions of this ordinance relating thereto, and no more than that number of persons shall be permitted in such theater at any one time.

No license for the operation of a theater shall be issued unless the Commissioner of Buildings, Fire Marshal and City Electrician shall first have certified, in writing, that such theater complies with the provisions of this ordinance in every respect.

SEC. 569. LIGHTING—ALL PARTS WELL LIGHTED DURING PERFORMANCES.

Every portion of any theater, devoted to the uses and accommodations of the public, and all outlets therefrom, to the streets, including open courts, corridors, stairways, exits and emergency exit stairways shall be well and properly lighted during every performance and the same shall remain lighted until the entire audience has left the premises.

SEC. 570. LIGHTS—CONTROL OF LIGHTS IN HALLS, CORRIDORS AND LOBBIES—SEPARATE SHUTOFF—CONNECTIONS WITH GAS MAINS—INDEPENDENT CONNECTIONS—PROTECTION OF SUSPENDED AND BRACKET LIGHTS—PROTECTION OF LIGHTS INSERTED IN WALLS—PROTECTION OF FOOT-LIGHTS—CONSTRUCTION OF BORDER LIGHTS—DUCTS AND SHAFTS CONDUCTING HEATED AIR FROM LIGHTS—GAS STAGE LIGHTS TO HAVE METAL SCREENS.

All gas or electric lights in the halls, corridors, lobbies or any other part of any theater used by the audience, except the auditorium, shall be controlled by a separate shutoff, located in the lobby and controlled only in that particular place. Gas mains supplying such theater shall have independent connec-

tions for the auditorium and the stage and provision shall be made for shutting off the gas from the outside of the building. All suspended or tracket lights surrounded by glass, in the auditorium, or in any other part of the theater, shall be provided with proper wire netting underneath. No gas or electric lights shall be inserted in the walls, woodwork, ceiling, or in any part of the theater unless protected by fireproof materials. In case gas is used for the footlights, in addition to the wire network, they shall be protected by a strong wire guard, not less than two feet distant from such footlights, and the trough containing such footlights shall be formed of and surrounded by fireproof material. All border lights shall be constructed according to the best known methods, and subject to the approval of the Fire Marshal and the City Electrician, and shall be suspended by wire ropes. All ducts and shafts used for conducting heated air from the main chandelier, or from any other light or lights, shall be constructed of metal and made double, with an air space between. All gas stage lights shall have strong wire metal guards or screens, not less than ten inches in diameter, so constructed that any material coming in contact therewith shall be out of reach of the flames of such lights, and shall be soldered to the fixtures in all cases.

The use of calcium lights in any theater is prohibited. All arc lights used on the stage shall be at all times subject to the approval of the City Electrician, and no arc lights shall be used on any stage unless approved by the City Electrician.

SEC. 571. FIRE APPARATUS TO BE UNDER CONTROL OF FIRE DEPARTMENT.

The standpipes, automatic sprinklers, gas pipes, electric wires, hose, footlights, fire alarm boxes, fireproof proscenium curtains, switch boxes, ventilators, controlling levers, axes and pike poles, and all apparatus for the extinguishing of fire or guarding against same, as provided for by this ordinance, shall be made and kept at all times in condition satisfactory to and under control of the Fire Marshal.

SEC. 572. OFFICERS EMPOWERED TO ENTER BUILDINGS.

The Commissioner of Buildings, Fire Marshal, City Electrician, Superintendent of Police, or any of them, and their respective assistants, shall have the right to enter any buildings used wholly or in part for the purpose of Class V., and any and all parts thereof, at any reasonable time, and at any time when occupied by the public, in order to examine such buildings and to judge of the condition of the same and to discharge their respective duties, and it shall be unlawful for any person to interfere with them or any of them in the performance of their duties.

SEC. 573. THE COMMISSIONER OF BUILDINGS, FIRE MARSHAL, CITY ELECTRICIAN OR SUPERINTENDENT OF POLICE SHALL CLOSE BUILDINGS FOR VIOLATIONS.

The Commissioner of Buildings, Fire Marshal, City Electrician, or Superintendent of Police, or any of them, shall have the power and it shall be their joint and several duty to order any building used wholly or in part for the purposes of Class V. closed, where it is discovered that there is any violation of the provisions of this ordinance and to keep same closed until such provisions are complied with.

SEC. 574. LICENSE—MAYOR SHALL REVOKE.

Upon a report to the Mayor by the Commissioner of Buildings, or Fire Marshal, or City Electrician, or the Superintendent of Police that any requirement of this ordinance, or that any order given by them or any of them, in regard thereto has been violated, or not complied with, the Mayor shall revoke the license of any such theater or place of public amusement so reported and cause the same to be closed.

PROVISIONS RELATING TO CLASS VI.

SEC. 600. CLASS VI.

In Class VI. shall be included every tenement and apartment house; that is to say, any house or building, or portion thereof, which is used as a home or residence for two or more families living in separate apartments.

SEC. 601. WALLS OF CLASS VI.—THICKNESS OF.

Buildings of Class VI. shall conform to the following requirements:

The thickness of enclosing walls of buildings of this class shall be made in accordance with the following table, to-wit:

	STORIES											
	Basement	1	2	3	4	5	6	7	8	9	10	11 12
Basement and	12	8										
Two-story	12	12	8									
Three-story	16	12	12	12								
Four-story	20	16	16	12	12							
Five-story	20	16	16	16	12	12						
Six-story	20	20	16	16	16	12	12					
Seven-story	24	24	20	20	16	16	12	12				
Eight-story	24	24	24	20	20	16	16	12	12			
Nine-story	28	24	24	20	20	20	16	16	12	12		
Ten-story	28	24	24	24	20	20	20	16	16	12	12	
Eleven-story	28	28	24	24	24	20	20	20	16	16	12	12
Twelve-story	32	28	28	24	24	24	20	20	20	16	16	12 12

Provided, however, in buildings of steel skeleton fireproof construction, thickness of walls shall be governed by the provisions of Section 911 of this ordinance.

Walls Around Stairs, Elevators and Shafts. See Sec. 998.

Walls.—Reinforced Concrete.—See Section 960.

SEC. 602. NEW TENEMENT HOUSE—DEFINITION.

“New Tenement House” includes every tenement house hereafter erected and every such new tenement house which shall be increased or diminished in size or otherwise altered after its erection, and every building now or hereafter in existence not now used as a tenement house, but hereafter converted or altered to such use.

SEC. 603. APARTMENT—DEFINITION.

“Apartment” is a room or suite of two or more rooms occupied or intended or designed to be occupied as a family domicile.

SEC. 604. YARD—DEFINITION.

“Yard” is an open, unoccupied space on the same lot with a tenement house, separating every part of every building on the lot from the rear line of the lot.

SEC. 605. COURT—DEFINITION.

“Court” is an open, unoccupied space, other than a yard, on the same lot with a tenement house; a court entirely surrounded by a tenement house is an “inner court;” a court bounded on one side and both ends by a tenement house and on the remaining side by a lot line is a “lot line court;” a court extending to a street, alley or yard is an “outer court.”

SEC. 606. SHAFT—DEFINITION.

“Shaft” includes exterior and interior shafts, whether for air, light, elevator, dumb waiter or any other purpose; a “vent shaft” is one used solely to ventilate or light a water closet compartment, bath room, or pantry.

SEC. 607. PUBLIC HALL—DEFINITION.

“Public Hall” is a hall, corridor or passageway not within an apartment.

SEC. 608. STAIR HALL—DEFINITION.

“Stair Hall” includes the stairs, stair landings and those portions of the public halls through which it is necessary to pass in getting from the entrance floor to the top story.

SEC. 609. PARTITIONS BETWEEN APARTMENTS IN FRAME BUILDINGS TO BE INCOMBUSTIBLE.

In all new frame tenement houses outside the fire limits of the city, each suite of apartments shall be separated from the next suite in such building by a wall of incombustible material of such character as the Commissioner of Buildings may require.

SEC. 610. BASEMENT—DEFINITION.

“Basement” is a story partly, but not more than one-half—“Cellar” is a story more than one-half—below the level of the street grade nearest the building; where the grade of a street adjacent to a tenement house varies, the mean or average grade of such street opposite the lot containing the tenement house shall be regarded as the grade of such street within the meaning of this ordinance.

SEC. 611. STORY—DEFINITION.

"Story" is that portion of a building between the top of any floor beams and the top of the floor or ceiling beams next above.

SEC. 612. SOLID MASONRY—DEFINITION.

A good quality of brick, laid in lime mortar, of strength and character equal to the requirements of Section 996 of this ordinance for brick walls, shall be taken as the standard of strength and stability for "solid masonry," but any other fireproof materials of equal strength and stability to the above standard may be substituted for brick.

SEC. 613. CONSTRUCTION OF.

Every new tenement house more than five stories and basement high shall be of fireproof construction (according to the definition of "fireproof construction" contained in section 901 of this ordinance); every new tenement house more than three stories and basement high, but not more than five stories and basement high, shall be of slow-burning or fireproof construction (according to the definition of "slow-burning or fireproof construction" as defined in this ordinance). In case slow-burning construction be used the cellar and basement construction, including the floor construction of the first story above the cellar or basement, shall be of fireproof construction.

SEC. 614. JOISTS—SUPPORTS FOR.

If in buildings of Class VI the distance between the enclosing walls is more than twenty-four feet in the clear, there shall be intermediate supports for the joists, which supports shall be either brick walls or iron or steel. If brick walls are used for this purpose they may, in all cases where the thickness of walls is given in the table as 16 in. or more, be made 4 in. less in thickness than the dimensions stated in the table.

Walls.—Ledges in. See Section 997.

SEC. 615. FIRE ESCAPES.

Every tenement house four or more stories in height shall be provided with a fire escape, or fire escapes, such as are required by the statutes of this state and the ordinances of the city. In every case each separate apartment shall have direct access to at least one such fire escape, unless such apartment shall have direct access (without passing through any other apartment) to at least two separate flights of stairs leading to the ground, one of which is placed in front and one in the rear of such building, and one of which may be placed outside of the building; but where such separate apartment shall not have access to two such flights of stairs, then there shall be a metal stairway between the balconies of every such fire escape, securely fastened to the walls of the building not less than two feet wide, with a proper handrail, instead of the usual vertical ladder. Every court in which there shall be a fire escape shall have direct and unobstructed access along the surface of the ground to a street, alley, or yard opening into the alley or street, without entering into or

passing through or over any building, unless by a four-foot wide fireproof passage on the court or ground level.

SEC. 616. FIRE ESCAPES TO BE PAINTED.

Every new fire escape shall be painted with two coats of durable paint, one put on in the shop and the other at once upon the erection of such fire escape.

SEC. 617. BULKHEADS AND SCUTTLES—STAIRS TO.

Every tenement house shall have in the roof a bulkhead or scuttle, fireproof or covered with fireproof materials, with stairs or ladder leading thereto; no such roof opening shall be less than two feet by three feet. No scuttle or bulkhead door shall have upon it any lock, but may be fastened on the inside by movable bolts or hooks.

SEC. 618. STAIRS AND HALLS—IN CASE OF ALTERATIONS—REQUIREMENTS.

Every now existing and every new tenement house shall have at least two flights of stairs, which shall extend from the entrance floor to the top story. Such stairs and the public halls in every tenement house shall each be at least three feet wide in the clear, and every apartment shall be directly accessible from both such flights of stairs. If any existing tenement house be so altered as to increase the number of apartments therein, or if such building be increased in height, or if the halls and stairs therein be damaged by fire or otherwise to an extent greater than one-half the original cost thereof, the entrance, stair halls, entrance halls and other public halls of the whole building shall be made to conform to the requirements of this ordinance as to new tenement houses.

SEC. 619. RAILINGS AND GUARDS.

In every tenement house all stairways shall be provided with sufficient railings and guards.

SEC. 620. STAIRS IN NON-FIREPROOF BUILDINGS, EIGHTY TO ONE HUNDRED AND TWENTY ROOMS.

Every new non-fireproof tenement house containing over eighty rooms, exclusive of bath rooms, shall have one additional flight of stairs (over and above the flights hereinbefore provided for) for every additional eighty rooms, or fraction thereof; but if such building contains not more than one hundred and twenty rooms, exclusive of bath rooms, at the owner's option, in lieu of an additional stairway, the stairs and public halls throughout the entire building shall be at least one-half wider than is provided in Sections 618 and 625 of this ordinance.

SEC. 621. STAIRS IN FIREPROOF BUILDINGS, ONE HUNDRED AND TWENTY ROOMS AND UPWARD.

Every new fireproof tenement house containing over one hundred and twenty rooms, exclusive of bath rooms, shall have one additional flight of stairs (over and above the flights hereinbefore provided for) for every additional one hundred and twenty rooms

or fraction thereof; but if such building contains not more than one hundred and eighty rooms, exclusive of bath rooms, at the owner's option, in lieu of an additional stairway, the stairs and public halls throughout the entire building shall be made at least one-half wider than is provided in Sections 618 and 625 of this ordinance.

SEC. 622. STAIRS—ENTRANCE TO—TREADS AND RISERS.

Every flight of stairs required in a tenement house shall have an entrance on the entrance floor from a street or alley, or from a yard or court which opens into a street or alley. All stairs except rear stairs, in new tenement houses, shall have risers not more than seven and three-quarters inches high and treads not less than nine and one-half inches wide, exclusive of nosings, except in winding stairs, where all treads at a point eighteen inches from the strings on the well side shall be at least nine and one-half inches wide, exclusive of nosings.

SEC. 623. STAIRS AND STAIR HALLS—OVER THREE STORIES—FIRE RESISTING GLASS.

The stairs and stair halls in all new tenement houses more than three stories and basement high shall be constructed of incombustible material throughout, except that the treads of stairs (not less than one and three-fourths inches thick), and all hand rails may be of hard wood. All windows in stair halls in new tenement houses more than three stories and basement high, opening on inner courts, or shafts, shall be of good quality fire resisting glass.

SEC. 624. STAIR HALLS ENCLOSED IN MASONRY—REQUIREMENTS—EXCEPTIONS.

In every new non-fireproof tenement house all stair halls shall be inclosed on all sides with walls of solid masonry of the same dimensions and thickness as specified for enclosing walls. All glass in such stair halls shall be of good quality fire resisting glass, except where same opens into a street, alley, outer court or yard. There shall be no movable transoms or sash openings from any such stair hall to any other part of the building. This section shall not apply to tenement houses which are not more than three stories and basement high with only one apartment on each floor.

SEC. 625. ENTRANCE HALLS—SOLID MASONRY—EXCEPTIONS—CEILINGS.

Every main entrance hall in a new tenement house shall be at least three feet six inches wide in the clear from the entrance up to and including the stair enclosure and beyond this point at least three feet wide in the clear. In every new non-fireproof tenement house, except where there is only one apartment on each floor, such entrance hall shall be inclosed with solid masonry walls and with ceilings covered with incombustible material and shall comply with all the conditions of the preceding sections of this ordi-

nance as to the construction of stair halls. If such main entrance hall is the only entrance to more than one flight of stairs, the several portions of such main entrance hall which separate the entrance of the building from the several flights of stairs respectively shall be increased respectively at least one foot in width for each additional flight of stairs.

SEC. 626. FRAME BUILDINGS NOT TO BE ENLARGED.

No wooden frame tenement house within the fire limits shall be enlarged either by adding to its height or to its superficial area.

SEC. 627. BAY WINDOWS—VENT SHAFTS—OPENINGS.

All bay windows and all shafts and courts in new tenement houses shall have their walls of brick or other fireproof construction throughout. All openings in vent shafts as well as in shafts for light or ventilation, shall either have fireproof closing doors or else shall be glazed with fire resisting glass; provided, however, that the above provisions of this section shall not apply to enclosures about elevators or in a well hole of stairs where the stairs themselves are enclosed in brick or stone walls and are constructed entirely of fireproof materials.

SEC. 628. APARTMENTS DIVIDED BY MASONRY.

There shall be a wall of solid masonry of the same thickness as required for outside walls in buildings of this character, extending from the ground to the roof between each set of apartments and around each well hole, court or light shaft; provided, however, that the wall between apartments above the first story extending from a main stair hall to the outer wall of the building may jog or set over to some point toward the center of the building to provide or allow for an even distribution of space of the rooms adjacent to the same; provided, however, that such wall above the first story, if supported on iron or steel beams (which shall extend from the brick wall surrounding the main stair hall to the outer wall of the building at each succeeding story), shall be not less than eight inches in thickness, but all brick walls between apartments and around each well hole, court or light shaft which extend from the ground to the roof and above the first story of an apartment building not supported as above described in this section, shall be of the thickness prescribed for buildings of this class in Section 601 of this ordinance.

SEC. 629. SPACE OCCUPIED ON LOT—PLAT MEASUREMENTS.

No new tenement house, alone or with other buildings now or hereafter erected, shall occupy above the first story more than eighty-five per centum of the area of a corner lot, or more than ninety per centum of the area of such corner lot, if such corner lot is bounded on three sides by streets or alleys, or more than seventy-five per centum of the area of any other lot, provided, that the space occupied by fire escapes, constructed and erected

according to law and not more than four feet wide, shall be deemed unoccupied.

At the time of applying for a permit for the erection of a new tenement house the applicant shall submit a plat of the lot showing the dimensions of the same and the position to be occupied by the proposed building, and the position of any other building or buildings that may be on the lot. The measurements shall in all cases be taken at the top of the first story and shall not include any portion of any street or alley.

SEC. 630. CORNER LOT DEFINED—FRONTAGES—TRIANGULAR LOTS.

By corner lot is meant a lot situated at the junction of two streets or of a street and public alley not less than sixteen feet in width. Any portion of the width of such lot distant more than fifty feet from such junction shall not be regarded as part of a corner lot, but shall be subject to the provisions of this ordinance respecting other than corner lots.

Where, in corner lots, the two frontages are of unequal length, the lesser street frontage shall be taken as the width of the lot. Street frontage alone and not alley frontage shall be considered in determining such lesser frontage. No existing tenement house shall hereafter be enlarged or its lot be diminished or other buildings be placed on its lot so that after such change a larger proportion of any corner lot or other lot upon which it is situated is covered by buildings than the aforesaid proportions, respectively; provided, however, that in case of a lot triangular or irregular in shape, bounded on two or more sides by a street and having a number of lineal feet street frontage extending one-twentieth of the number of square feet in the area of such lot, it shall not be necessary to comply with the conditions of this section as to percentage of lot to be covered; and, provided, further, that there shall be no violation of Section 634 of this ordinance in the erection of any tenement house.

SEC. 631. FIRE WALLS—WHEN DISPENSED WITH.

Fire walls of brick not less than twelve inches thick shall be built, extending above the roofs of all buildings, if such roofs are flat, and also above the roofs of all buildings where the same abut against another building, or where the same stand upon any line of any lot, excepting street or alley lines. Provided, that where eight-inch walls are permitted in the top story of buildings, or where the building is not over three stories high, the fire walls may be eight inches thick. Such fire walls, where they stand upon lot lines, or where they are over the dividing walls between buildings or over the dividing walls in the interiors of buildings, where such are called for by this ordinance by reason of the great area of such buildings, shall extend at least two feet above the roofs of such buildings. Fire walls upon street and alley lines shall extend not less than eighteen inches above the roofs of such buildings. Fire walls may be dispensed with on street and alley lines, if the top of the roof boards and roof joists are protected

against fire for a distance of at least five feet from such street or alley lines by a coating of mortar or hollow tile or porous tile at least two inches thick. Fire walls at street and alley lines may also be dispensed with in all cases where the entire framing and material of the roof shall be made strictly fireproof.

Walls facing upon courts and light shafts shall be treated as in the same category with walls facing upon streets and alleys.

Fire walls shall be covered with a weatherproof coping of incombustible material.

SEC. 632. HEIGHT—HOW MEASURED.

The height of a new tenement house shall not by more than one-half exceed the platted width of the widest street on which it abuts.

Provided, however, that any distance the building sets back from the lot line shall be added to the width of the street in making this computation, but no existing tenement house shall be increased beyond such height. Such height shall be the perpendicular distance from the grade nearest the house to the highest point of the roof (not including as part of the roof any cornice or bulkhead less than eight feet high, or any elevator enclosure less than sixteen feet high). Where such street grade varies, the mean or average grade thereof opposite such house shall be the datum from which such height shall be measured.

SEC. 633. ALLEY OR YARD IN REAR MUST HAVE—SIZE OF YARD INCREASED.

At the rear of every lot containing a new tenement house (unless the rear of such lot abuts upon a public alley at least ten feet wide) there shall be a yard open and unobstructed from the earth to the sky, except by fire escapes not more than four feet wide, constructed and erected according to law; every part of such yard shall be directly accessible from every other part thereof; such yard shall on corner lots (as above defined) have an area of at least eight per centum of the superficial area of the lot, and shall on other lots have an area of at least ten per centum of the superficial area of the lot. Every such yard shall be increased one per centum of the superficial area of the lot for every story above three stories in the height of the tenement house situated thereon, and in no case shall such yard separate any building on such lot by less than ten feet from the rear line of the lot at the nearest point of approach of such building to such rear line.

SEC. 634. REQUIREMENTS IN CASE OF ENLARGING—DISTANCE BETWEEN BUILDINGS.

No existing tenement house shall (unless the rear of the lot upon which it stands abuts upon a public alley at least ten feet wide) hereafter be enlarged or its lot be diminished, so that any building on such lot shall at any point approach nearer than ten feet to the rear line of the lot. Where a tenement house, now or hereafter erected, stands upon a lot, other than a corner lot,

no other building shall hereafter be placed upon the front or rear of that lot, unless the minimum distance between such buildings be at least ten feet, if neither building exceeds the height of one story; or fifteen feet if either building exceeds the height of one story, but not the height of two stories; and so on, five additional feet to be added to such minimum distance of ten feet for every story more than one in the height of the highest building on such lot.

SEC. 635. COURTS—PORCHES.

Every court of every new tenement house shall be open and unobstructed at every point thereof from the bottom thereof to the sky, save by fire escapes or stairs or landings constructed and erected according to law and projecting not more than four feet into courts, which courts shall communicate directly without obstruction into a street, alley or yard. Where porches are constructed in courts, the amount of area of unobstructed space in such courts shall be exclusive of space occupied by stairs and porches. No rear porch shall be constructed which is more than eight feet in width where the construction is of combustible material, and no such rear porches shall be enclosed with other than incombustible material as defined in Section 907 of this ordinance.

SEC. 636. ROOMS—HABITABLE WINDOWS—VENT SHAFTS.

In every new tenement house every habitable room, excepting water closet compartments and bath rooms, shall have at least one window opening directly upon a street, alley, yard or court. The total area of the windows opening from any such room (other than water closet compartments and bath rooms) upon a street, alley, yard or court, shall be at least one-tenth of the floor area of that room, and the top of at least one window shall be not less than seven feet above the floor and the upper half of that window shall be made so as to open its full width. No window in any such room (other than pantries, water closet compartments and bath rooms) shall have less than ten square feet of glass area, and in no such water closet compartment or bath room shall the total window area be less than three square feet glass area, or the width of any window less than one foot; and when any window ventilating any water closet compartment or bath room in any new tenement house opens into a vent shaft, no window from any room other than a water closet compartment, bath room, pantry or hall shall open into such vent shaft.

SEC. 637. WINDOWS IN LOT LINE WALLS.

Windows in addition to those provided for in Section 639 of this ordinance, if placed in any lot line wall or in any wall nearer to the lot line than is specified in Section 639 of this ordinance from such lot line, then the sash in such window shall be stationary and glazed with fire-resisting glass.

SEC. 638. COURTS—INNER—SIZES OF—LOT LINE COURTS.

The "inner courts" of all new tenement houses as defined in Section 605 of this ordinance shall have areas and minimum widths in all parts not less than the widths and areas as follows:

Buildings.	Square Feet.	Least Width.
2 stories	100	6 feet
3 stories	120	7 feet
4 stories	160	8 feet
5 stories	250	12 feet
6 stories	400	16 feet
7 stories	625	20 feet
8 stories	840	24 feet

"Lot line courts" shall have areas and minimum widths in all parts not less than one-half of those specified in the above table of "inner courts."

SEC. 639. COURTS—OUTER—SIZES OF—WIDTH INCREASED.

The "outer courts" of all tenement houses defined in Section 605 of this ordinance shall have not less than the following widths for their minimum in all parts:

Buildings.	Least Width.
2 stories	3 feet
3 stories	3 feet 6 in.
4 stories	4 feet
5 stories	6 feet
6 stories	8 feet
7 stories	10 feet
8 stories	12 feet

If the outer or lot line court has windows on opposite sides of the same, the least widths given in the above table for outer courts shall be doubled.

SEC. 640. ROOMS—SIZES AND HEIGHT OF—ATTIC AND JANITOR'S ROOMS.

In every new tenement house, all rooms, except water closet compartments and bath rooms, shall be of the following minimum sizes: In each apartment there shall be at least one room containing not less than one hundred and twenty square feet of floor area, and every other room shall contain at least seventy square feet of floor area. Each room shall be in every part not less than eight feet six inches high from the finished floor to the finished ceiling, but an attic room need be eight feet six inches high in but one-half of its area; provided, that in a basement apartment used for janitor's use only, such room or rooms shall not be less than eight feet high in the clear.

SEC. 641. ROOMS—CHANGES IN EXISTING.

No room in any now existing tenement house shall hereafter

be constructed, altered, converted or occupied for living purposes unless it contains a window having a superficial area not less than one-twelfth the floor area of the room, which window shall open upon a street or alley or upon a yard or court having a superficial area of not less than twenty-five square feet; or unless such room adjoins another room in the same apartment, which other room adjoins another room in the opening upon such a street, alley, yard or court, and between which two adjoining rooms there shall be a sash window having at least fifteen square feet of glazed surface, the upper half of which shall be so made as to open easily.

SEC. 642. WINDOWS—COURTS—ATTIC.

No room in any now existing tenement house which has no such window, as aforesaid, opening upon a street or alley or upon a yard or court having a superficial area of not less than twenty-five square feet, shall hereafter be constructed, altered, converted or occupied for living purposes, unless it contains a floor area of at least sixty square feet and also at least six hundred cubic feet of air space; nor unless every part of the finished ceiling of such room be at least eight feet distant from every part of the finished floor thereof; provided, that an attic room need be eight feet high in but one-half of its area and such attic room shall not be used for purposes of human habitation other than as a sleeping room.

SEC. 643. AIR—QUANTITY OF FOR EACH PERSON.

No room in any tenement house shall be so occupied that the allowance of air to each person living or sleeping in such room shall at any time be less than four hundred cubic feet for each such person more than twelve years old, and two hundred cubic feet for each such person of the age of twelve years or under.

SEC. 644. ALCOVES.

Every alcove shall be deemed a separate room for all purposes within the meaning of this ordinance except such an alcove as, adjoining another room, has at least twenty per centum of entire wall surface of alcove opening to another room.

SEC. 645. LIGHT IN HALLS—RECESSES—RETURNS—DOORS IN.

In every new tenement house every public hall shall be lighted by at least one window in each story opening directly upon a street, alley, yard or court, or by a skylight. Such window shall be so placed that light may pass directly through it and the hall to the opposite end of the hall, or else there shall be at least one window opening directly upon a street, alley, yard or court in every twenty feet in length or fraction thereof of every such hall, except in so much of any entrance hall as lies between the entrance and the flight of stairs nearest the entrance. In any such public hall, recesses or returns, the length of which do not exceed twice the width of the hall, will be permitted, without an additional window, but other-

wise each recess or return shall be regarded for the purposes of this section as if it were a separate hall. Any part of a public hall which is shut off from any other part by a door or doors shall be deemed a separate public hall within the meaning of this section.

SEC. 646. PUBLIC HALLS—WINDOWS IN.

In every new tenement house one at least of the windows provided to light each public hall or part thereof shall have a glass area of at least twelve square feet.

SEC. 647. ROOMS AND HALLS—ADDITIONAL.

Any additional room or hall that may hereafter be constructed or created in an existing tenement house shall comply in all respects with the provisions of this ordinance as to size, arrangement, light and ventilation of rooms and halls.

SEC. 648. SHAFTS—INNER AND OUTER VENT—DIMENSIONS.

Inner or outer vent shafts of all tenement houses as defined in Section 606 of this ordinance shall be of the following dimensions:

Building.	Square Feet.	Least Width.
2 stories	22½	3 feet
3 stories	27	3 feet
4 stories	36	3 feet
5 stories	48	5 feet
6 stories	72	6 feet
7 stories	96	8 feet
8 stories	120	8 feet

SEC. 649. SKYLIGHT OVER STAIRS—VENTILATING—AREA OF.

In every new tenement house there shall be in the roof, directly over each stair well, a ventilating skylight, which shall have a glazed surface of the following dimensions: Where such tenement house shall not exceed two stories in height, and covering a superficial ground area of not to exceed sixteen hundred square feet, the glazed surface in such ventilating skylight shall not be less than fifteen square feet in area. For a three-story building, with a superficial ground area of not to exceed sixteen hundred square feet, the glazed surface of such ventilating skylight shall be not less than twenty square feet in area. For all buildings in excess of three stories and covering a superficial ground area in excess of 1,600 square feet, the glazed surface of such ventilating skylight shall be not less than twenty-five square feet in area; provided, however, that such ventilating skylights shall not be required in any of such buildings where the stairways are lighted by a window on each story landing.

If the building is more than three stories high, the skylights shall have at least six inches above same a strong wire net-

ting (wire not lighter than No 8 and a mesh not coarser than one and one-half by one and one-half inches), unless the glass contains a wire netting within itself.

SEC. 650. FLUES IN WALLS.

In every new tenement house there shall be adequate flues in walls of masonry not less than forty-nine square inches area in each chimney running through every floor, with an open fire-place or grate or place for a stove, properly connected with one of such chimney flues, for every apartment, every additional flue used shall not be of less size than the above.

SEC. 651. CELLAR AND BASEMENT—CEILINGS—VENTILATION.

All cellar and basement ceilings, unless the floor construction be fireproof, shall be plastered, and that part of the ceiling over the boiler or furnace extending two feet beyond in each direction shall be covered with metal lath and shall be plastered with cement, and every cellar shall be ventilated from both ends.

SEC. 652. DAMP-PROOFING—BASEMENT WALLS AND FLOORS.

Every new tenement house shall have all its outside walls below the adjacent ground level plastered on the outside with Portland cement or treated with other approved damp-proofing material, and such walls, as high as the ground level, shall be laid in cement mortar. The basement or cellar shall have a floor of Portland cement concrete not less than three inches in thickness.

SEC. 653. CELLAR CHANGED FOR LIVING PURPOSES—REQUIREMENTS.

In no now existing or new tenement house shall any room in the cellar be constructed, altered, converted or occupied for living purposes; and no room in the basement of a tenement house shall be constructed, altered, converted or occupied for living purposes, unless all of the following conditions of this ordinance be complied with, and at least one-third of the height of the basement shall be above grade for building; provided, in each case it shall be at least four feet above the street grade.

SEC. 654. CELLAR ROOMS—HEIGHT.

Such rooms shall be at least 8 feet 6 inches high in all now existing or new tenement houses in every part, from floor to the ceiling, except, as provided for janitor's use only in Section 640 of this ordinance.

SEC. 655. WATER CLOSET.

There shall be appurtenant to such room or apartment a water closet conforming to the regulations and ordinances of the city relating to water closets.

SEC. 656. SHAFTS, AREAS, ETC., TO EXTEND TWO
INCHES BELOW THE FLOOR—GRADED—
CONCRETE DRAINED.

In every new tenement house, the bottom of all shafts, courts and yards which extend to the basement and light and ventilation of living rooms in such basement shall, by means of areas, not less than two feet six inches in their least dimension or otherwise, be extended a distance of at least two inches below the floor level of the part intended to be occupied. All shafts, inner courts and areas which extend to the ground shall be properly concreted, and all shafts, inner and lot line courts, and areas shall be properly graded and drained, and shall be so connected with a street sewer through an intermediate trap or surface basin (where such a sewer is adjacent to the lot), that all water may be drained freely into it.

SEC. 657. SINKS—REQUIREMENT.

In every new tenement house there shall be in each apartment at least one proper sink with running water. In every now existing tenement house there shall be on every floor, at least, one proper sink with running water, accessible to all the tenants of that floor, without passing through any other apartment, if there be not one such sink in each apartment. In no tenement house shall there be woodwork inclosing sinks located in the public halls; the space underneath sinks shall be left entirely open.

SEC. 658. WATER CLOSETS—ACCESS TO—WINDOWS IN—
ARTIFICIAL LIGHT.

In every new tenement house there shall be a separate water closet in a separate compartment within each apartment, accessible to each apartment, without passing through any other apartment, provided that where there are apartments, consisting of only one or two rooms, there shall be at least one water closet for every two apartments. Every water closet compartment in every new tenement house shall have a window opening upon a street, alley, yard, court or vent shaft, and every water closet compartment in every existing tenement house shall be ventilated by such a window, or else by a proper ventilating pipe running through the roof. Every water closet compartment in every tenement house shall be provided with proper means of artificially lighting the same. If fixtures for gas or electricity are not provided in any such compartment, then the door thereof shall have ground glass or wire glass panels or transoms.

SEC. 659. SANITARY REQUIREMENTS.

No drip trays shall be permitted in new tenement houses. All water closet fixtures in every new tenement house shall be constructed and set up conformably to the requirements of the Department of Health. All privy vaults used in connection with any existing tenement house shall be replaced by water closets, constructed and set up conformably to this ordinance,

whenever connection with a public sewer is in any way practicable, and the Department of Health of the city shall be the sole judge as to the practicability of such connection with the public sewer. At least one such water closet shall be provided for every two apartments in each existing tenement house, and such water closets may be located in the yard if necessary. If so located, long hopper closets may be used, provided all traps, flush tanks and pipes be protected against frost.

SEC. 660. LOADS—ALLOWANCE FOR LIVE LOADS IN CONSTRUCTION OF FLOORS.

For all buildings of Class VI. the floors shall be designed and constructed in such manner as to be capable of bearing in all their parts, in addition to the weight of the floor construction, and including the weight of partitions and permanent fixtures and mechanisms that may be set upon the same, a live load of forty pounds for every square foot of surface in such floors.

SEC. 661. PIPES THROUGH FLOORS.

In every new tenement house where plumbing or other pipes pass through floors or partitions, the openings around such pipes shall be sealed or made air tight with plaster or other incombustible material, so as to prevent the passage of air or the spread of fire from one floor to another or from room to room.

SEC. 662. CATCH BASINS.

The covers of all catch basins in lots containing tenement houses shall be of stone or iron and shall be placed in courts or yards, flush with the surface of such courts or yards, so that access to such basins may be convenient.

SEC. 663. STAIRWAYS—FIRE ESCAPES TO BE FREE FROM INCUMBRANCE.

No incumbrance of any kind shall at any time be placed before, upon or against any stairway, steps or landings or fire escapes in or upon any tenement house. All fire escapes upon tenement houses shall be kept in good order and repair, and every exposed part thereof shall at all times be protected against rust by durable paint.

SEC. 664. WATER CLOSETS—ACCESS TO.

In every apartment of three or more rooms in every new tenement house convenient access from the outer door of the apartment to every living room and to every bed room and to every room used as a bed room and to at least one water closet compartment shall be provided otherwise than through any bed room or room used as a bed room.

SEC. 665. BUILDINGS DAMAGED BY FIRE, ETC.

If any existing tenement house is hereafter damaged by fire or other cause (including ordinary wear) so that at any time its value be less than one-half its original cost (exclusive of the value of the foundations) such building shall not be repaired or rebuilt except in conformity with the provisions of this ordinance applicable to new tenement houses,

SEC. 666. CHANGES OR ALTERATIONS—PERMITS.

Every new tenement house and all changes or alterations in any existing tenement house shall conform to the requirements of this ordinance. No new tenement house shall be begun, nor shall any changes or alterations in any existing tenement house, such as are referred to in this ordinance, be begun until a permit therefor shall have been issued by the Building Department of the city. Such permit shall be issued only upon an application by the person for whom the building is to be erected or altered, and after approval of the plans and specifications of such tenement house or such changes or alterations by the Health Department of the city whenever such approval is required by law or ordinance.

SEC. 667. NOTICE TO BE SENT TO COMMISSIONER OF BUILDINGS TO INSPECT—CERTIFICATE TO BE ISSUED—NOTICE TO INSPECT TO BE FILED.

It shall be the duty of the owner or his agent, when a tenement house is in course of erection, to notify the Commissioner of Buildings of the city when the building is or will be ready for lathing, and the Commissioner shall, within three days of the time specified, cause an inspection to be made, and if the construction is found to be in accordance with the requirements of this ordinance he shall issue or cause to be issued a certificate to that effect; otherwise he shall cause the penalties provided in Section 669 of this ordinance to be enforced. The Commissioner shall file for reference the notice received and shall also file a copy of the certificate in the office of the Building Department.

SEC. 668. YARDS, COURTS, ETC.—MUST COMPLY AS TO.

Any tenement house not conforming in itself and in its yards, courts, areas and shafts to the requirements of this ordinance, shall not be occupied, or if found occupied shall forthwith be vacated upon notice from the Commissioner of Buildings, and such tenement house shall not again be occupied until made to conform in all respects with the provisions of this ordinance, notwithstanding the issuance of a building permit for the erection or alteration of such building.

SEC. 669. VIOLATIONS—PENALTY FOR.

Any owner, lessee, tenant, occupant or agent of any tenement house, or any architect, contractor, builder or foreman violating, disobeying, neglecting or refusing to comply with or resisting the enforcement of any of the provisions of this ordinance shall be fined not less than ten dollars nor more than two hundred dollars for each offense, and any violation of any provision of this ordinance, if continued after the first fine is imposed, shall, for every week of such continuance, be punishable and an additional fine of not less than ten dollars nor more than two hundred dollars.

SEC. 670. PROVISIONS OF THIS ORDINANCE NOT TO APPLY TO EXISTING BUILDINGS, EXCEPT UNDER CERTAIN CIRCUMSTANCES.

Nothing in this ordinance contained shall be considered as requiring alterations in the construction or equipment of buildings in existence at the time of the passage of this ordinance and which at the time of their construction were built in compliance with the ordinances then in force, unless such buildings shall not have sufficient or adequate means of egress therefrom or ingress thereto by reason of insufficient or inadequate stairway or stairways, improperly located, or insufficient or inadequate elevators or elevator equipment, doors, fire escapes, windows or other means of egress or ingress.

If, however, it is desired to enlarge or in any manner materially modify the construction of any existing building, or to make any change in its use or occupation which will transfer it from one class, as defined by this ordinance, to another class, then before such enlargement or structural change or modification of building is made, or before such change in its use or occupation may be made, the entire building shall be reconstructed or modified in such manner as to bring the same, when enlarged or altered, or when occupied for its new and different purposes, into accordance with the provisions of this ordinance.

SEC. 671. COMMISSIONER SHALL NOTIFY.

Where it shall appear to the said Commissioner that any such building has inadequate or insufficient means of egress therefrom or ingress thereto, as aforesaid, he shall notify the owner, agent or person in possession, charge or control of such building of such fact and direct him forthwith to make such alterations and changes in the construction or equipment of such building as are necessary to be made in order to promote the safety of the occupants of such building and of persons using the same and of the public.

SEC. 672. SECTIONS—WHERE CONFLICTING WITH OTHER SECTIONS.

In cases of direct conflict with the provisions of other sections of this ordinance relating to other classes, the provisions of the sections relating to Class VI shall govern in respect to tenement houses.

PROVISIONS RELATING TO CLASS VII.

SEC. 700. CLASS VII.

In Class VII. shall be included all buildings used for the sale of retail of dry goods and other articles of general merchandise and commonly known and described as "department stores."

SEC. 701. BUILDINGS OF CLASS VII.—CONSTRUCTION OF.

Buildings used either wholly or in part for the purposes of Class VII., three stories or less in height, may be of ordinary construction.

Such buildings more than three and not exceeding five stories in height shall be of slow-burning, mill or fireproof, construction.

Such buildings over five stories in height shall be of fireproof construction.

SEC. 702. WALLS—THICKNESS OF.

The thickness of inclosing walls shall conform to the following requirements:

	STORIES											
	Basement.	1	2	3	4	5	6	7	8	9	10	11 12
One-story	12	12										
Two-story	16	12	12									
Three-story	16	16	12	12								
Four-story	20	20	16	16	12							
Five-story	24	20	20	16	16	16						
Six-story	24	20	20	20	16	16	16					
Seven-story	24	20	20	20	20	16	16	16				
Eight-story	24	24	24	20	20	20	16	16	16			
Nine-story	28	24	24	24	20	20	20	16	16	16		
Ten-story	28	28	28	24	24	24	20	20	20	16	16	
Eleven-story	28	28	28	24	24	24	20	20	20	16	16	16
Twelve-story	32	28	28	28	24	24	24	20	20	20	16	16 16

Provided, however, in buildings of steel skeleton, fireproof construction, thickness of walls shall be governed by Section 914 of this ordinance.

Walls, Ledges, Etc.—See Section 997.

Walls Around Stairs, Elevators and Shafts.—See Section 998.

Walls Reinforced (Concrete).—See Section 960.

SEC. 703. STORIES USED FOR THE RETAIL SALE OF GOODS—OCCUPATION OF BASEMENT—LOCKERS.

Not more than the lower twelve stories above the street grade shall be used for the retail sale of goods, or for employes' locker rooms, or for manufacturing purposes in a building devoted wholly or in part to purposes of Class VII., provided, however, the stories above the twelfth story may be used for these or other purposes when the stairs are built as described in Section 709 of this ordinance.

Not more than one floor of any basement or cellar shall be used for the retail sale of goods. Such floor shall be the floor nearest to the inside street grade. Such floor used for the retail sale of goods shall not be more than twenty feet below the inside street grade.

No sub-basement, cellar or part of a basement below such floor shall be used for the sale of any goods in any manner, but locker and dressing rooms may be placed in the sub-basement, provided the space thus occupied be separated from the remainder of the basement by fireproof partitions and that there be at least two flights of stairs placed as far apart as practicable leading therefrom to the first floor inclosed in fireproof partitions as provided in Sections 936, 937 and 938 of this ordinance. Such stairs from

such locker or dressing rooms shall be in addition to any stairways required by this ordinance from any portion of such building, provided that at least one of such stairways shall open directly on a street, alley or court opening on a street or alley or a fireproof passage leading to the street, alley or such court. Where more than five lockers are in one room such lockers shall be of incombustible material.

SEC. 704. FLOOR AREAS—MAXIMUM.

The floor area of any one story or portion of a story used for the purposes of Class VII of any building of ordinary construction shall not exceed nine thousand square feet.

The floor area of any one-story or portion of a story used for the purposes of Class VII of any building of slow-burning or mill construction shall not exceed twelve thousand square feet.

The floor area of any one-story or portion of a story used for the purposes of Class VII of any building of fireproof construction shall not exceed 25,000 square feet.

SEC. 705. FLOOR AREAS—EXCEEDING THE MAXIMUM LIMITS DEFINED IN SECTION 704.

Where any floor or portion of a floor used for the purposes of Class VII in any building shall exceed in area the maximum number of square feet allowed in the preceding section for the type of construction of such building in which such floor is contained, each such maximum amount of floor area so used shall be separated from other parts of such floor by fire walls or dividing walls built in accordance with the provisions of Section 109 of this ordinance relating to dividing walls in buildings of Class I.

Where any such floor so used is divided by such fire walls or dividing walls, each such division of such floor shall be provided with stairs, aisles, exits and fire escapes, as is required in this ordinance for separate and distinct buildings, and each such division shall be considered as a separate building.

SEC. 706. GALLERIES.

The area of any one or all of the galleries, mezzanine or intermediate floors in any one story used wholly or in part for the purposes of Class VII in any building shall not exceed ten per centum of the area of such story, and galleries, mezzanine or intermediate floors of a larger size than the above shall be considered as full stories.

Every gallery, mezzanine or intermediate floor shall have at least one stairway not less than three feet wide.

The height from the floor of any gallery, mezzanine or intermediate floor to the ceiling over same shall not be less than seven feet and there shall be not less than seven feet space between the bottom of such gallery, mezzanine or intermediate floor and the floor of the story in which such gallery, mezzanine or intermediate floor is placed.

Every gallery, intermediate or mezzanine floor used for the purposes of Class VII in any building shall be built entirely of fire-

proof or incombustible construction, with the exception of the floor surface and nailing strips, which may be of wood.

No gallery, intermediate or mezzanine floor shall be built without a permit from the Department of Buildings, and plans showing the construction and size of such proposed gallery, intermediate or mezzanine floor, shall be filed with the Department of Buildings when a permit is applied for.

SEC. 707. COURTS OF CLASS VII BUILDINGS.

Every court or light shaft of every building used wholly or in part for the purposes of Class VII shall be open and unobstructed from the floor of such court to the sky, with the exception that fire escapes may be built therein, and such court shall have walls constructed in the same manner as is required for the exterior walls of such buildings; provided, that no walls inclosing such courts are required on street or alley lot lines.

All windows, doors or other openings in court walls of such buildings shall have metal frames, with the glazed portion thereof of fire-resisting glass.

SEC. 708. STORIES—NUMBERING OF.

The first story above the inside street grade shall be designated and known as the first story for all purposes of this ordinance, and the stories above shall be numbered, consecutively, the second, third and so on.

SEC. 709. STAIRWAYS—INTERIOR STAIRWAYS IN BUILDINGS OF CLASS VII.

Buildings used wholly or in part for purposes of Class VII shall have two stairways if the aggregate floor area is five thousand square feet or less, three stairways if the aggregate floor area is more than five thousand square feet and not more than ten thousand square feet, and four stairways if the floor area is more than ten thousand square feet.

The number of stairways and the aggregate width of stairways required for the various floor areas shall be as indicated in the table hereinafter set forth in the following section.

The width of the different stairways need not be alike, and for each four stories, or fractional number of stories, of the building above the first four stories each stairway may be reduced by six inches, as set forth in the table of stairs in Section 710, but no stair in a Class VII building shall be of a less width than three feet.

Stairways in buildings used wholly or in part for the purposes of Class VII shall be located as far apart as practicable and shall have hand rails on each side thereof, and no such stairway shall be a spiral stairway or have any winders. The height of the individual riser shall not exceed seven and three-eighths inches. The width of the individual tread shall be not less than ten inches. Stairways which are over seven feet wide shall have double intermediate hand rails with end newel posts at least five and one-half feet high.

The bottom of each stairway shall be in the immediate vicinity of the top of the stairs leading to the next lower story, and the line of travel from stairway to stairway shall be direct and easily accessible each to the other.

Every story below street grade shall have not less than two stairways to the first story and each such stairway shall be not less than three feet wide, but where a basement or a cellar is used for the retail sale of goods the stairways from such basement or cellar shall be in number and aggregate width as indicated in the table of stairways set forth in the following section for the lower four stories of the same building.

The whole number of stairways required for any such building shall be complete in every respect from the first floor to the top-most floor, and each stairway shall be extended to the roof.

710. TABLE OF STAIRWAYS FOR CLASS VII BUILDINGS.
AGGREGATE WIDTH OF STAIRWAYS.

Building area.	—SQUARE FEET OF—					
	1st, 2d, 3d, 4th	5th, 6th, 7th, 8th	9th, 10th, 11th, 12th	13th, 14th, 15th, 16th		
	story or stories.	story or stories.	story or stories.	story or stories.		
25,000	30 ft.	27 ft.	24 ft.	21 ft.	6	stairways
20,000	25 ft.	22 ft. 6 in.	20 ft.	17 ft. 6 in.	5	stairways
15,000	20 ft.	18 ft.	16 ft.	14 ft.	4	stairways
14,000	19 ft.	17 ft.	15 ft.	13 ft.	4	stairways
13,000	18 ft.	16 ft.	14 ft.	12 ft.	4	stairways
12,000	17 ft.	15 ft.	13 ft.	12 ft.	4	stairways
11,000	16 ft.	14 ft.	12 ft.	12 ft.	4	stairways
10,000	15 ft.	13 ft. 6 in.	12 ft.	10 ft. 6 in.	3	stairways

710. TABLE OF STAIRWAYS FOR CLASS VII. BUILDINGS.
AGGREGATE WIDTH OF STAIRWAYS.

Building area.	—SQUARE FEET OF—					
	1st, 2d, 3d, 4th,	5th, 6th, 7th, 8th,	9th, 10th, 11th, 12th,	13th, 14th, 15th, 16th,		
	story or stories.	story or stories.	story or stories.	story or stories.		
9,000	14 ft.	12 ft. 6 in.	11 ft.	9 ft. 6 in.	3	stairways
8,000	13 ft.	11 ft. 6 in.	10 ft.	9 ft.	3	stairways
7,000	12 ft.	10 ft. 6 in.	9 ft.	9 ft.	3	stairways
6,000	11 ft.	9 ft. 6 in.	9 ft.	9 ft.	3	stairways
5,000	10 ft.	9 ft.	8 ft.	7 ft.	2	stairways
4,000	9 ft.	8 ft.	7 ft.	6 ft.	2	stairways
3,000	8 ft.	7 ft.	6 ft.	6 ft.	2	stairways
2,000 & less	7 ft.	6 ft.	6 ft.	6 ft.	2	stairways

SEC. 711. STAIRS—FIREPROOF INTERIOR.

Where an interior stairway and its stair hall of a building used wholly or in part for the purposes of Class VII are inclosed in all stories of the building by fireproof partitions built as described in Section 936 of this ordinance for fireproof construction, and where the stairways and landings are built as

described in Section 938 of this ordinance for fireproof construction, and where the doors, frames, sashes and casings and the glazed portions thereof are built as described in Section 927 of this ordinance for fireproof construction, then such stairway, if not less than five feet in width from first floor to the topmost floor, shall be considered as the equivalent of two open stairways, but in no case shall there be less than two stairways in any such building.

SEC. 712. STORIES—WHERE STORIES ABOVE TWELFTH ARE USED FOR CLASS VII. PURPOSES.

Where stories above the twelfth story are used for the purposes of Class VII. as hereinbefore described for employes' locker rooms, then the stairways from the first to the topmost floor shall be built and inclosed as described in the preceding section, but the stairways shall be in number and in their aggregate width as required in the table of stairways set forth in Section 710 of this ordinance.

SEC. 713. STAIRS—HALLS—PASSAGEWAYS AND AISLES—SIGNS AND LIGHTS

The stair halls, passageways or stair aisles shall be unobstructed and shall be as wide as the stairs and not less than four feet wide in any place in the clear.

The exit door or doors between floors and stair hall shall be as wide as the stairway to which they afford access and for each elevator opening into such a stair hall the doors to floors shall be increased two feet in width.

The stairways and stair halls of any buildings used wholly or in part for the purposes of Class VII. shall be illuminated by gas or electric light, and the gas piping and the electric wiring shall be accomplished by piping and circuits separated and distinct from the general illuminating piping and circuits of the premises. Each stair light shall have a red glass inclosure.

At the bottom of each such stairway there shall be an illuminating red glass sign with the number of the story in which it is situated inscribed thereon in letters not less than six inches high.

SEC. 714. AISLES IN CLASS VII. BUILDINGS.

In buildings used wholly or in part for the purposes of Class VII. there shall be aisles in such portions of the building as are used for such purposes, connecting the stairways and the elevators directly with the street or alley doors, and such aisles shall be termed "main aisles." Such main aisles shall have a clear width equal to the width of the stairways connecting therewith, and for each elevator connecting with such an aisle there shall be an additional width of six inches, and no such main aisle shall be less than five feet wide in the clear between the counters in any department store or between the fixed seats therein. One-third the width of any basement stairway shall be added to the width of the main aisle connecting with such stairway.

If there is a column in any such aisle, then the width of the aisle shall be increased by the width of such column.

If there is a counter or counters or settee or any case or other obstruction in an aisle, then that part of the aisle on each side of such counter, settee or case or other obstruction shall be considered as a separate aisle. No aisle other than a main aisle shall be less than three feet in width.

SEC. 715. EXIT SIGNS AND LIGHTS.

All exits in buildings used wholly or in part for the purposes of Class VII. shall be clearly indicated by illuminated red signs with the word "EXIT" thereon in letters not less than six inches high. At the bottom of each stairway on the street level floor there shall be similar signs indicating the direction of the nearest exit to a street or alley.

Fire escape doors or windows shall be indicated by illuminated red signs with the words "FIRE ESCAPE" thereon in letters not less than six inches high.

SEC. 716. DOORS AT STREET LEVEL—REVOLVING DOORS.

The clear width of the exit openings shall be computed in the same manner as that provided for main aisles in Section 716, and no door openings shall be less than five feet wide, and all doors shall swing outward. Revolving doors shall not be considered as exits.

SEC. 717. DOORS IN DIVIDING WALLS.

Door openings may be built in dividing walls of such buildings, provided, however, that such door openings shall be provided with fireproof doors built as described in Section 110 of this ordinance, and that each door shall have an efficient closing device, automatic in operation in the event of a fire, in close proximity to such door and on each side of such opening.

Each such opening shall have exit signs and lights as provided for street doors and exits in Section 715 of this ordinance. There shall be aisles not less than five feet in width connecting with such doors from the main aisles, and in no case shall any such door be of less width than the aisle directly connecting therewith.

Doors and Windows.—When Required to be Closed.—Fire-Resisting Glass.—See Section 1049.

SEC. 718. FLOORS—STRENGTH OF.

Every structural part of every building used wholly or in part for the purposes of Class VII. shall safely support, in addition to the weight of floor construction, partitions and permanent mechanisms that may be set upon the same, a live load of not less than one hundred pounds per square foot of floor, and the construction shall be calculated according to the safe unit stresses elsewhere defined in this ordinance. Every part of any such building which is subjected to a live load of more than one hundred pounds per square foot of floor shall be of sufficient strength in the parts which support such load to safely

support the load imposed, calculated according to the safe allowable unit stresses elsewhere defined in this ordinance.

SEC. 719. FIRE ESCAPES IN CLASS VII. BUILDINGS.

Every such building more than two stories in height shall have two stairway fire escapes. Such stairway fire escapes shall each be not less than thirty-six inches wide between centers of hand rails. Such stairway fire escapes shall be at opposite ends of the building or as far apart from each other as practicable.

SEC. 720. PASSAGEWAYS—FIREPROOF.

Where stairway fire escapes do not extend to the ground level they shall have a counterbalanced stairway to the ground from a platform not more than twenty feet above the ground level.

Fire escapes in inclosed courts shall have open, unobstructed, fireproof passageways leading directly to a street or an alley.

SEC. 721. FIRE ESCAPES—WINDOWS AND RAILINGS ON.

All windows and doors which are passed by a fire escape of any kind and all windows and doors opening on fire escape platforms or landings shall have fireproof frames glazed with fire-resisting glass.

Each fire escape platform shall have at least one window on each floor in any such building opening thereon.

Each such window shall be indicated by signs and lights as required in Section 715 of this ordinance for exits.

Where window sills at fire escape exits are more than two feet above the floor, one or more steps not less than three feet wide shall be provided, with risers not to exceed twelve inches high and treads not less than eight inches wide.

The railings on stairway fire escapes and the railings around fire escape platforms shall have iron guards in addition to the iron hand rails; such guards shall be not less than four feet high measuring from the outer corner of the tread or from the platform; such guards shall have a mesh or openings not over two and one half inches square, and the metal strands in such guards shall have a cross section of not less than one-eighth of an inch in diameter.

SEC. 722. FIRE DRILL OF EMPLOYEES.

It shall be the duty of every person or corporation maintaining or in possession, charge or control of any building used wholly or in part for the purposes of Class VII. to designate certain adult male employes in such building (the number of which employes shall be prescribed by the Fire Marshal), who shall be regularly and throughout the entire time such building is open to the public employed in such building and who shall be physically and mentally able to perform the duties which shall be required of them in case of fire occurring in any such building. Such employes shall at least once in each month, when directed by the Fire Marshal or any authorized member of the Fire Department, take part in a fire drill conducted by the Fire Marshal, or any authorized member of the Fire Depart-

ment, in the use of all apparatus for the prevention and extinguishing of fire in such building, whenever the Fire Marshal shall deem such drill necessary or advisable. Such person, or corporation, shall pay to the city the proportion of the regular salary of any employe of the Fire Department who shall be employed in drilling and examining the employes of any such building, based upon the time of such employment, and the Fire Marshal shall render bills monthly for such services.

SEC. 723. STANDPIPES—PUMPS—AXES, ETC.

There shall be one or more standpipes on each floor of every such building, with hose connections and hose on reels or racks connected to same. Full water pressure in such standpipes shall be maintained during business hours. There shall be portable chemical or hand pumps and one or more Fire Department axes on each floor, all of which, in number and location, shall be placed or installed to the satisfaction of the Fire Marshal.

PROVISIONS RELATING TO CLASS VIII.

SEC. 800. CLASS VIII.

In Class VIII. shall be included every building used exclusively for school purposes.

SEC. 801. BUILDINGS OF CLASS VIII.—CONSTRUCTION OF.

All buildings used wholly for the purposes of Class VIII. hereafter erected shall be constructed as follows, viz.:

Such buildings having a seating capacity of less than four hundred, or which are not over two stories and basement in height, may be built of ordinary construction.

Such buildings having a greater seating capacity than four hundred and less than eight hundred, or which are not over three stories and basement in height, shall be built of slow-burning or fireproof construction.

Such buildings having a greater seating capacity than eight hundred, and which are more than three stories and basement in height, shall be built entirely of fireproof construction.

New additions to existing buildings may be built; provided, however, that such new additions shall comply with the above requirements.

All alterations in existing buildings used wholly for the purposes of Class VIII., other than new additions thereto, intended to make them comply with the requirements of this ordinance, may be executed in the same materials of construction at present employed in such buildings, unless otherwise distinctly provided herein.

SEC. 802. FRAME BUILDINGS—PORTABLE.

Portable frame buildings used wholly for the purposes of Class VIII., not larger than twenty-eight feet by thirty-six feet and not over one story high, may be erected, provided the exterior walls and roof of same are covered with metal or incombustible material, and the interior woodwork painted with fireproof paint, approved by the Commissioner of Buildings.

And, provided further, that the location of such buildings shall be approved by the Commisisoner of Buildings. Such portable buildings shall not be located nearer than ten feet to any other building, and shall not be maintained on any one lot or block for a longer period than two years after the date of the issuance of the permit therefor without a new permit from the Commisisoner of Buildings.

Doors and Windows.—When Required to Be Closed.—Fire-Resisting Glass. See Section 1049.

SEC. 803. WALLS—WINDOW OPENINGS IN.

No wall of any building used wholly for the purposes of Class VIII, containing a window opening shall be nearer than five feet to any lot line of adjoining property (street and alley lines not included).

SEC. 804. WALLS—THICKNESS OF.

The following regulations shall govern the construction of buildings used wholly for the purposes of Class VIII.:

The thickness of surrounding walls and of all dividing walls carrying the load of floors or roof shall be as indicated in the following table, to wit:

	STORIES.				
	Basement.	1	2	3	4 5
	in.	in.	in.	in.	in.
One story	16	12			
Two stories	16	16	12		
Three stories	16	16	16	12	
Four stories	20	20	16	16	12
Five stories	24	20	20	16	16 16

Buildings built of fireproof construction shall be excepted from the foregoing provisions of this section, but shall comply with the other provisions of this ordinance governing such buildings.

SEC. 805. LOADS—LIVE.

The floors of buildings used wholly for the purposes of Class VIII, shall be designed and constructed so as to be capable of bearing in all their parts, in addition to the weight of floor construction, partitions, permanent fixtures and mechanisms that may be set upon same, a live load of seventy-five pounds per square foot.

SEC. 806. STORIES—HEIGHT OF.

No story above the basement shall be less than twelve feet in height in the clear.

SEC. 807. FLOOR LEVELS IN BUILDINGS OF FIREPROOF CONSTRUCTION.

The following limitations of floor levels of auditoriums or assembly halls of such buildings shall be observed in all cases:

In buildings of fireproof construction.

Not to exceed two thousand seating capacity, not over ten feet above sidewalk level.

Not to exceed one thousand seating capacity, not over thirty feet above sidewalk level.

Not to exceed eight hundred seating capacity, not over fifty feet above sidewalk level.

Not to exceed five hundred seating capacity, in any story; provided, however, that there shall be at least two separate and distinct stairways from the floor in which such auditorium or assembly hall is located to the ground, each of which shall be not less than four feet wide in the clear.

SEC. 808. FLOOR LEVELS—IN BUILDINGS HAVING STAIRS AND CORRIDORS OF FIREPROOF CONSTRUCTION.

Not to exceed one thousand five hundred seating capacity, not over ten feet above sidewalk level.

Not to exceed one thousand seating capacity, not over twenty-five feet above sidewalk level.

Not to exceed eight hundred seating capacity, not over forty-two feet above sidewalk level.

Not to exceed five hundred seating capacity, not over fifty feet above sidewalk level.

Not to exceed two hundred and fifty seating capacity, not over sixty feet above sidewalk level.

SEC. 809. FLOOR LEVELS—IN BUILDINGS OF MILL, SLOW-BURNING OR ORDINARY CONSTRUCTION.

Not to exceed one thousand seating capacity, not over ten feet above sidewalk level.

Not to exceed six hundred and fifty seating capacity, not over thirty feet above sidewalk level.

Not to exceed five hundred seating capacity, not over forty-five feet above sidewalk level.

Not to exceed two hundred seating capacity, not over sixty feet above sidewalk level.

SEC. 810. FLOORS—HEIGHT OF, MEASURED FROM SIDEWALK LEVEL.

Heights shall be measured from sidewalk level at entrance of buildings to highest part of main floor of auditorium or assembly hall.

SEC. 811. STAIRWAYS—WIDTH OF.

Stairways in buildings used wholly for the purpose of Class VIII. shall be in width equivalent to fifteen inches for every hundred of seating capacity in such building as measured by the aggregate seating capacity of the auditorium, assembly rooms and school rooms; provided, however, that the number of persons allowed in such buildings at any one time shall be limited by the width of stairways available as exits therefrom.

No stairway shall be less than four feet in the clear, except where more than two stairways lead down from any floor, in

which case stairways three feet wide in the clear may be counted in the total width of stairways required.

Where two or more stairways are used, they shall be placed at opposite ends of the building or as far apart as practicable and all such buildings hereafter erected shall have at least two separate and distinct stairways from the ground floor to the top floor, and all existing buildings shall have two such separate and distinct stairways, or one stairway and one stair or sliding fire escape.

SEC. 812. STAIRWAYS—RAILINGS ON EACH SIDE.

All stairways shall have railings on each side thereof.

SEC. 813. STAIRWAYS—HEIGHT OF LANDING.

No stairway shall ascend a greater height than thirteen feet six inches without a level landing, which, if its width is in the direction of the run of the stairs, shall be not less than four feet wide, or which, if at a turn of the stairs, shall be of not less width than the stairs, and no winder shall be permitted in any stairs.

SEC. 814. STAIRWAYS—FIREPROOF.

In such buildings hereafter erected more than two stories and basement in height, the stairways and their enclosing walls shall be of fireproof construction.

SEC. 815. CORRIDORS, PASSAGEWAYS, HALLWAYS AND DOORS.

The width of corridors, passageways, hallways and doors shall be computed in the same manner as that herein provided for stairways; provided, however, that no corridor shall be anywhere less than five feet in width, and no door less than three feet in width, except where two or more doors, each two feet four inches or more in width, are grouped together.

SEC. 816. DOORS TO OPEN OUTWARD.

All doors in such buildings shall open outward, and all entrance and exit doors shall be unlocked at all times when the building is occupied for school purposes, or open to the public.

SEC. 817. DOORS—EXITS COVERED WITH METAL.

All exit doors from assembly halls and class rooms to other parts of the building shall be covered with metal or other fireproof material, approved by the Commissioner of Buildings.

SEC. 818. AISLES—WIDTH OF—NUMBER OF SEATS IN AUDITORIUM.

Aisles in auditoriums and assembly halls in such buildings shall be in width equivalent to eighteen inches for every one hundred of seating capacity in such auditorium or assembly hall, but no such aisle shall be less than two feet six inches wide in its narrowest part. All groups of seats shall be so arranged that they shall have an aisle on each side, and not more than twelve seats in any one row shall be placed between aisles.

SEC. 819. AISLES IN CLASS AND RECITATION ROOMS.

Aisles in class rooms, recitation rooms and study rooms of such buildings shall be in width equivalent to eighteen inches for every one hundred permanent seats in any such room, but no main or cross aisle shall be less than two feet six inches wide in its narrowest part.

SEC. 820. AISLES AND PASSAGEWAYS.—KEPT CLEAR OF OBSTRUCTIONS.

All aisles and passageways in such buildings shall be kept free from camp stools, chairs, sofas and other obstructions, and no person shall be allowed to stand in or occupy any of such aisles or passageways during any performance, service, exhibition, lecture, concert or any public assembly, nor shall there be any chairs, settees or camp stools in such aisles or corridors at such times or occasions.

SEC. 821. EMERGENCY EXITS FOR AUDITORIUMS OR ASSEMBLY ROOMS—AGGREGATE WIDTH OF.

All auditoriums or assembly halls of such buildings having a seating capacity of eight hundred or more shall be provided with emergency exits. The aggregate width of such emergency exits, which shall be provided for each floor, balcony or gallery of such auditorium or assembly hall shall be one-half of the width of the main exit. No emergency exit or stairway shall be less than three feet in width.

SEC. 822. EXITS—SIGNS.

All exits opening from auditoriums and assembly halls of such buildings shall have the word "EXIT," in letters at least six inches high, applied to the auditorium side of every such exit, and when such auditorium or assembly hall is used at night, a red light shall be kept burning over the word "EXIT," during the entire time such building is so used and until the pupils or audience have left the building.

SEC. 823. LIGHTS IN BUILDINGS.

Every portion of any such building devoted to the uses or accommodation of the public and all outlets therefrom leading to the streets, including the open courts and corridors, stairways, and exits, shall be well and properly lighted during the entire time such portion is in use, and shall remain lighted until all the pupils or the audience have left the premises. All gas or electric lights in the halls, corridors, lobbies, stairs and exits leading from the auditorium or assembly halls shall be controlled by a separate shut-off and shall be independent of all other lights in such building.

SEC. 824. WINDOWS.

The total glass area of outside windows and skylights of each class room, recitation room or study room in such buildings shall be not less than one-ninth of the floor area of such room.

SEC. 825. BASEMENT.

In every such building in which the lower or basement floor is below the surface of the ground surrounding such building, and which is used in part or as a whole for heating or ventilating apparatus, shall be considered the basement story of such building. Permanent class rooms in basements shall not be permitted.

SEC. 826. FIRE ESCAPES.

Every building used for the purposes of Class VIII. of four or more stories in height shall be provided and equipped with one or more stairways or sliding fire escapes in such locations and numbers as shall be satisfactory to the Commissioner of Buildings.

SEC. 827. FIRE ESCAPES TO BE EXAMINED.

It shall be the duty of the janitor of every such building or such other employe or employes thereof as may be directed by the principal of such school to examine all fire escapes of such buildings from the topmost story to the ground and to examine and operate all doors, windows and platforms leading to and from such fire escapes; and such inspection shall be made at least once each and every week that such building is used for school purposes and a written report made of such inspection to the principal of such school, showing the time it was made and the condition of the fire escapes.

Such fire escapes shall be kept in good condition ready for immediate use at any and all times that such building is in use, and shall be kept free of snow and ice.

SEC. 828. FIRE DRILL.

The principal or other person in charge of the pupils in every such building shall establish and maintain a good and efficient fire drill, which shall be practiced at least twice every month during the time such building is used for school purposes.

A record shall be kept by the principal or other person in charge of the pupils of each fire drill held and of the time that elapses from the first fire signal until the last person is out of the building.

Walls—Around stairs, elevators and shafts. See Section 998.

GENERAL PROVISIONS.

SEC. 900. FIREPROOF CONSTRUCTION.

In cases in which it is claimed that any equally good or more desirable mode or manner of construction, or material, or device for fireproofing, other than specified in this ordinance, can be used in the erection or alteration of buildings, the Commissioner of Buildings, upon written application to him for a permit to use the same, shall have power to appoint a Board of Examiners, consisting of not less than three nor more than five members, each of whom shall have had at least ten years' experience in Chicago as an architect, engineer or builder, who shall take the usual oath of office. The said examiners shall adopt rules

and specifications for examining and testing such mode or manner of construction, or material, or device for fireproofing, and furnish a copy of the same to the applicant. And said specification shall provide for a comparative fire test of not less than four hours and for a period of at least two hours an average temperature of 2,000 degrees Fahrenheit shall be maintained. At the end of this test water shall be applied to the construction through a 1½-inch nozzle under 60 pounds pressure for five minutes. Hollow tile shall be used as a basis for comparison, and if the proposed material pass said test as well or better than hollow tile, it shall be approved as a fireproofing material. The said examiners shall thereupon notify such applicant to submit to such examination and make such tests in the presence of the said examiners, or a majority thereof, according to such rules and specifications. All expenses of such examiners, and of such examinations and tests, shall be paid by the applicant, and said examiners may require security therefor.

The said examiners shall, after such examination and tests, certify the results and their decision on the said application to the Commissioner of Buildings, who shall have power, in the event of the examination and tests being satisfactory, to grant a permit to the applicant in accordance with such decision of the said Board of Examiners.

A complete record of the proceedings and all acts and decisions of the said Board of Examiners shall be kept by the Commissioner of Buildings in his office.

The Commissioner of Buildings shall have the power to pass upon any question relative to the mode or manner of construction or materials to be used for fireproofing in the erection or alteration of any building or structure to make the same conform to the true intent and meaning of the several provisions of this ordinance.

SEC. 901. FIREPROOF CONSTRUCTION—DEFINITION OF.

The term fireproof construction shall apply to all buildings in which all parts that carry weights or resist strains, and also all exterior walls and all interior walls and all interior partitions and all stairways and all elevator enclosures are made entirely of incombustible material, and in which all metallic structural members are protected against the effects of fire by coverings of a material which shall be entirely incombustible, and a slow heat conductor, and hereinafter termed "fireproof material." Reinforced concrete as defined in this ordinance shall be considered fireproof construction.

SEC. 902. FIREPROOF MATERIAL.

The materials which shall be considered as filling the conditions of fireproof covering are: First, burnt brick; second, tiles of burnt clay; third, approved cement concrete; fourth, terra cotta; fifth, approved cinder concrete.

SEC. 903. CONCRETE—APPROVED CEMENT.

All approved cement concrete shall consist of a standard

Portland cement, torpedo sand, and crushed stone or gravel, or crushed blast furnace slag, or crushed burnt clay, the volumetric quantity of any one of these materials combined with the torpedo sand shall not exceed nine times the volume of the Portland cement. All of the ingredients of cement concrete shall be thoroughly worked and wet so as to cover each piece of stone or gravel or slag or burnt clay with moistened cement; and the cement and sand shall fill the voids between the coarse material of the cement concrete.

All cement concrete to be considered a fireproof material shall be cast and rammed in an unset condition against the metal.

SEC. 904. CONCRETE—APPROVED CINDER.

Machine or hand pressed concrete bricks or blocks are not considered in this ordinance as a fireproof material for the protection of metallic structural members.

SEC. 905. BRICK, BURNT CLAY, TILES, ETC.—HOW APPLIED.

Brick, burnt clay, hollow tiles, porous clay, solid tiles and terra cotta shall be applied to the metal in a bed of mortar.

SEC. 906. FIREPROOF COVERING—MINIMUM THICKNESS OF.

The minimum thickness of fireproof covering on any metal shall be, if of hollow tile, constructed in such a manner that there shall be not less than one air space of at least three-fourths of an inch, by the width of the metal surface to be covered, within the clay covering; if of porous clay tiles, the covering shall be at least one and one-half inches thick. The minimum thickness of concrete covering any metal shall be two inches.

SEC. 907. INCOMBUSTIBLE MATERIALS.

A metal or fire-resisting glass of not less than one-quarter inch in thickness, or plastering, or plaster blocks, or stone or granite, or marble, or an approved cinder concrete or one of the fireproof materials described herein shall be considered an incombustible material as called for by this ordinance.

SEC. 908. CONCRETE—CINDER—FLOOR FILLING—SPECIFICATIONS FOR.

Whenever the use of a cinder concrete is permitted by this ordinance, such cinder concrete shall be composed of the following named ingredients, in the proportion here described, to wit: Five parts of clean, thoroughly burnt, steam boiler cinders, no particle of which shall be larger than one (1) inch; three parts of clean grit sand, or other parts of clean stone screenings, and one part of a standard Portland cement; the working and wetting of these ingredients shall be done in the same manner as required for cement concrete in Section 903 of this ordinance, and such a mixture of approved cinder concrete may be used only for floor filling.

SEC. 909. FIREPROOF COVERING—MEASUREMENTS.

In every case the thickness of the covering specified in this ordinance shall be measured from the extreme projection of the metal, unless otherwise provided herein.

SEC. 910. SKELETON CONSTRUCTION.

The term "skeleton construction" shall apply to all buildings wherein all external and internal loads and strains are transmitted from the top of the building to the foundations by a skeleton or framework of metal. In such metal framework the beams and girders shall be riveted to each other at their respective junction points. If columns made of rolled iron or steel are used each successive column shall be bolted to the one below and the beams and girders resting upon them shall have riveted connections to unite them with columns. If cast iron columns are used each successive column shall be bolted to the one below it by at least four bolts not less than three-fourths of an inch in diameter, and the beams and girders shall be bolted to the columns. At each line of floor or roof beams, lateral connections between the ends of the beams and girders shall be made in such manner as to rigidly connect the beams and girders with each other in the direction of their length.

SEC. 911. WALLS—ENCLOSING.

If buildings are made fireproof entirely, and have skeleton construction so designed that their enclosing walls do not carry the weight of floors or roof, then their walls shall be not less than twelve inches in thickness; provided, such walls shall be thoroughly anchored to the iron skeleton, and whenever the weight of such walls rests upon beams or columns, such beams or columns shall be made strong enough in each story to carry the weight of wall resting upon them without reliance upon the walls below them. All walls shall be of fireproof or incombustible material.

SEC. 912. COLUMNS—EXTERIOR.

All iron or steel used as a vertical supporting member of the external construction of any building exceeding sixty feet in height shall be protected as against the effects of external changes of temperature, and of fire, by a covering of fireproof material consisting of at least four inches of brick, or of four inches of concrete, or of four inches of burnt clay tiles, or four inches of hollow terra cotta, or of a combination of any two of these materials, provided that their combined thickness is not less than four inches. The thickness of four inches shall be measured from the extreme projections of the metal of the column proper.

Where stone or other incombustible material is used for the exterior facing of a building the distance between the back of the facing and the extreme projections of the metal of the column proper shall be at least four inches, and this four-inch space shall be filled with one of the "fireproof materials."

In all cases, the brick or burnt clay, tile or terra cotta, if

used as a fireproof covering, shall be bedded in cement mortar close up to the iron or steel members, and all joints shall be made full and solid.

SEC. 913. FIREPROOFING OF EXTERIOR SIDES OF MULLIONS.

In buildings required by this chapter to be of fireproof construction, all vertical door or window mullions over eight inches wide shall be faced with incombustible material; horizontal transom bars over six inches wide shall be faced with a fireproof or with an incombustible material.

SEC. 914. SPANDRIL BEAMS, GIRDERS, LINTEL.

The metal of the spandril beams or spandril girders, or lintels of exterior walls, which support a part of exterior walls, shall be covered in the same manner, and with the same material as specified for the exterior columns in this ordinance. The covering thickness shall be measured from the extreme projection of the metal in every case.

SEC. 915. FIREPROOF COVERING INDEPENDENT.

All covering of brick, concrete, burnt clay tiles, hollow terra cotta, or of a combination of any two of these materials shall be applied to all of the structural members of the exterior of a fireproof building previously and independently of the application of the architectural facing of such a fireproof building with an incombustible or fireproof material.

SEC. 916. IRON OR STEEL PLATES FOR SUPPORT OF WALL.

If iron or steel plates or angles are used in each story for the support of the facings of the walls within such story, such plates or angles shall be of sufficient strength to carry the weight within the limits of fibre stress for iron and steel elsewhere specified in this ordinance, the enveloping material for such story, and such plates or angles may extend to within two inches of the exterior of such covering.

SEC. 917. WALLS, SUPPORT AND FIREPROOFING OF.

Where skeleton construction is used for the whole or part of a building the enveloping material and the walls shall be independently supported on the skeleton frame for each individual story.

SEC. 918. TERRA COTTA.

If terra cotta or other hollow blocks are used, as fireproof covering, they shall be backed up with brick or hollow tile or concrete; whichever is used shall be, however, of such dimensions and laid up in such a manner that the backing will be built into the cavities of the facing so as to secure perfect bond between the facing and its backing.

SEC. 919. COPING.

The upper surfaces of all breaks or offsets in exterior coverings and fillings and walls, as well as the tops of walls,

shall be covered with stone, terra cotta, metal, concrete or fire clay copings set in cement mortar. Copings of all kinds which do not have lapped joints shall be pointed with mortar composed of one part of standard Portland cement and two parts of torpedo sand.

SEC. 920. COLUMNS—INTERIOR.

The coverings of interior columns shall be one or more of the fireproof materials herein described.

If such covering shall be of brick or concrete it shall be not less than four inches thick; if of burnt clay tiles such covering shall be in two consecutive layers each not less than two and one-half inches thick, with one air space; if of porous clay solid tiles it shall consist of at least two layers not less than two combination of any two of these materials, one-half of the total thickness required for each of the materials shall be applied, of each of such materials. Whether hollow tile, porous tile or terra cotta is used, the two consecutive layers shall be so applied that neither the vertical nor the horizontal joints in the same shall be opposite each other, and each course shall be so anchored and bonded within itself as to form an independent and stable structure.

In all cases, the brick or hollow tile, solid tiles or terra cotta shall be bedded in cement mortar close up to the iron or steel member, and all joints shall be made full and solid.

In the case of columns having an "H" shaped cross section or of columns having any other cross section with channels or chases open from base plates to cap plates on one or more sides of the columns, then the thickness of the fireproof covering may be reduced to three inches, measuring in the direction in which the flange or flanges project, and provided that the thin edge in the projecting flange or arms of the cross sections does not exceed three-quarters of an inch in thickness. The thickness of the fireproof covering on all surfaces measuring more than three-quarters of an inch wide and measuring in a direction perpendicular to such surfaces shall be not less than that specified for interior columns in the beginning of this section, and all spaces, including channels or chases between the fireproof covering and the metal of the column, shall be filled with a solid fireproof material. Lattice or other open columns shall be completely filled with approved cement concrete.

SEC. 921. FOUNDATIONS—STEEL IN—CONCRETE AROUND BOTTOM OF COLUMNS.

If steel or iron in any form is used as part of a foundation, it shall be thoroughly imbedded in a concrete, the ingredients of which shall be such that, after proper ramming, the interior of the mass will be free from cavities. The steel or iron shall be entirely enveloped in approved cement concrete, and around the exposed external metal surfaces of such foundation there shall be a covering of approved cement concrete not less than four inches thick.

After the bases or base plates and columns have been set in place, both shall be protected from the effects of moisture by a covering of approved cement concrete applied direct to the metal in an unset state, measuring not less than two and one-half inches thick from the extreme projection of the metal, filled solid into all spaces, and forming a continuous concrete mass from the grillage or other foundations to an elevation six feet above the floor level nearest the column base plate or column stool.

SEC. 922. COLUMNS—WIRING CLAY TILES ON.

Burnt clay tile column covering shall be secured by winding wire around the columns after the tile has all been set around such columns. The wire shall be securely wound around the tile in such manner that every tile is crossed at least once by a wire. If iron wire is used it shall be galvanized and no wire used shall be less than No. 12 gauge.

SEC. 923. FIREPROOFING—PROTECTIVE COVERING FOR.

In places where there is trucking or wheeling or other handling of packages of any kind, the lower five feet of the fireproofing of such columns shall be encased in a protective covering either of iron or oak plank, which covering shall be kept continually in good repair.

SEC. 924. PIPES INCLOSED BY COVERING.

Pipes shall not be inclosed in the fireproofing of columns or in the fireproofing of other structural members of any fireproof building, provided, however, gas or electric light conduits not exceeding one inch inside diameter may be inserted in the outer two inches of the fireproof of such structural member.

SEC. 925. SHAFTS, ETC.

In cases where a pipe, conduit, dumb waiter, table, wire, conveyor, belt or any combination thereof passes from one story to another story through an open hatch or floor opening, a shaft or enclosure of fireproof material shall be built from floor to floor around such hatch or floor opening, in each story above and below such hatch or floor opening in the same manner as described for fireproof partitions in this ordinance. The area of space thus enclosed shall not exceed the area of the hatch or floor opening by more than one hundred per centum.

In no case shall any wood be used in the construction or support or fittings of such shaft as described above. If such holes in floors as described above in this section are not enclosed by such fireproof enclosures, then the open spaces in each floor opening not occupied by pipes, conduits, cables, wires, conveyors, belts or any combination thereof, shall be filled solid with fireproof material not less than eight inches thick.

SEC. 926. SHAFTS—PARTITIONS AROUND PLASTER- ING OF.

All burnt clay or terra cotta partitions or walls around shafts

having openings in floors shall be plastered on the outside and plastered or pointed on the inside.

SEC. 927. SHAFTS—DOORS AND WINDOWS.

All doors, frames, sashes, casings and windows in partitions or walls around floor openings, or around stair shafts or elevator shafts, shall be built of incombustible material. The supports of such doors, frames, sashes, casings and windows shall also be of incombustible material; in the case of doors, such supports shall be of rolled structural metal extending from floor to ceiling and secured to both. Where there are brick walls of twelve inches or more in thickness the supports need not extend to ceiling as above specified. All glass used in connection with such partitions or walls shall be fire resisting.

Sheet metal work pressed over asbestos paper and wood may be used for the doors, frames, sashes and casings and for openings in such partitions, except for elevator doors in shafts and where the provisions of this chapter require all metal doors.

SEC. 928. BEAMS AND GIRDERS, COVERINGS OF.

tected, and shall be held in place by the support of the flanges

The beams and girders of the interior structural parts of a building shall be covered by one of the fireproof materials so applied as to be supported entirely by the beam or girder proper of such beams or girders and by the cement mortar used in setting. If metal binding or metal anchors are used as fastenings of such fireproof covering, such metal binding or such metal anchor shall be protected by not less than one-half inch of fireproof covering.

If the covering is of brick it shall be not less than four inches thick; if of hollow tiles or if of solid porous tiles, or if of terra cotta, each of such tiles shall be not less than one and one-half inches thick, applied to the metal in a bed of cement mortar; hollow tiles shall be constructed in such a manner that there shall be one air space of at least three-fourths of an inch by the width of the metal surface to be covered within such clay coverings; the minimum thickness of concrete on the bottom and sides of metal shall be two inches.

The top of all girders and beams shall be protected with two inches of brick or one and one-fourth inches of burnt clay, or two inches of approved cement concrete, or three inches of approved cinder concrete. The brick or burnt clay shall be bedded solid on the metal in cement mortar.

In all cases of beams or girders, in roofs or floors, no matter what the material or form of the floor arch used, the protection of the bottom flanges of the beam and girders and so much of the web of the same as is not covered by the arches shall be made as hereinbefore specified for the covering of beams and girders. In every case the thickness of the covering shall be measured from the extreme projection of the metal, and the entire space or spaces between the covering and the metal shall be filled solid with one of the fireproof materials excepting the air spaces in hollow tile.

SEC. 929. GIRDERS AND TRUSSES.

All girders or trusses when supporting loads from more than one story shall be fireproofed with two thicknesses of fireproof material or a combination of two fireproof materials as required for exterior columns in Section 912 of this ordinance, and each covering of fireproof material shall be bedded solid in cement mortar.

All other girders or trusses supporting only a ceiling or roof shall be covered with a fireproof covering as specified for beams and girders in Section 928 of this ordinance.

SEC. 930. CUT-OUT BOXES, CHASES, ETC.

No electric service cut-out box, switch box, cabinet, chase or any other recess, shall encroach on the minimum thickness required for any fireproof covering on structural metal, except as provided in Section 924 of this ordinance. If the depth of any cut-out box, switch box, cabinet, or chase, or of any other recess is to be concealed or partially concealed, then the thickness of the fireproof covering shall be increased correspondingly.

SEC. 931. FLOOR—CONSTRUCTION OF.

Brick, hollow tile, porous terra cotta, or approved cement concrete, or approved cinder concrete, shall be used for the construction of floors and roofs of fireproof buildings. Flat arch hollow tile, or flat arch porous clay tile floor arches shall have a height of at least one and one-half inches for each foot of span.

SEC. 932. HOLLOW TILE FLOORING.

Hollow tile flat arch flooring construction having a thickness of only one and one-half inches for each foot of span shall be used only for the minimum floor loads, and the area of burnt clay in the flanges, and ribs, and webs of the hollow burnt clay tiles shall be proportioned to the safe value of resistance to compression of the materials used, in the most stressed areas of the burnt clay.

SEC. 933. SEGMENTAL ARCHES.

Segmental arches shall have a rise of at least one inch for each foot of span of arch.

The least thickness of a hollow tile or porous terra cotta segmental arch shall be one-half of an inch per foot of span, but no such hollow tile or terra cotta arch shall be of a thickness less than five inches.

Both flat and segmental arches shall be so constructed that the joints of the same radiate from a common center and there shall be a cross rib for every four inches, or fractional part thereof, in height in each tile block. The skew back of the arches shall be carefully fitted to the beams supporting them, and in addition to the cross ribs there shall also be additional diagonal reinforcing ribs in the skew back. Such arches, whether flat or curved, shall have their beds filled with cement mortar, and the centers shall not be struck until the mortar has set.

Burnt clay skew backs shall be molded in such a manner as to support the burnt clay covering on the under sides of beams or girders.

SEC. 934. FLOORS—WOOD SURFACING AND NAILING STRIPS.

Wood floor surfacing and wooden nailing strips for such wood floor surfacing may be used in fireproof buildings.

Where wood flooring is used in a fireproof building, the space immediately under such wood flooring, and between the wood nailing strips and under such wood nailing strips shall be filled with a cement or a cinder concrete tamped into place in an unset state or such other incombustible material as shall be approved by the Commissioner of Buildings.

SEC. 935. PARTITIONS IN FIREPROOF BUILDINGS.

The partitions around stairs, stair halls, shafts, elevators, or public lavatories shall be fireproof partitions, as described in Section 936 of this ordinance; all other partitions in fireproof buildings shall be incombustible partitions. Where blocks are used for building partitions or as enclosing walls, the joints shall be well filled with mortar.

The partitions shall be wedged tight between floors and ceilings with incombustible wedges.

SEC. 936. PARTITIONS—FIREPROOF.

Only fireproof material shall be used for fireproof partitions; if of brick, they shall be not less than four inches thick, and if of partition blocks, not less than three inches thick. If fireproof partitions are of reinforced concrete they shall be not less than two inches thick.

All fireproof partitions shall be supported directly by the steel construction, or by the fireproof floor arches, or stone concrete, or brick. No cinder concrete or wood flooring shall intervene between any such partition and its support.

All doors, windows, sashes, frames, casings and glass in fireproof partitions shall be built as required in Section 927 of this ordinance.

SEC. 937. PARTITIONS, INCOMBUSTIBLE.

Only fireproof or incombustible material shall be used in the construction of incombustible partitions, excepting that frames, casings, doors, sash and the rough carpenter work required for the proper fastenings of such frames, casings, doors or sash, may be of wood, and that ordinary glass may be used in doors and partition windows.

SEC. 938. STAIRS—LANDINGS.

Stairs in fireproof buildings shall be built of approved cement concrete, reinforced concrete, stone or with metal supports, metal strings, metal treads, metal platforms, or a combination of one or more of such materials.

If reinforced concrete is used in the construction of any stairs

in a fireproof building such stairs shall be designed according to the provisions of the sections applying to reinforced concrete.

Stairs shall carry a live load of not less than one hundred pounds per square foot on treads and landings, and every part of a stair shall be so designed that the safe limit of fibre stress is not exceeded.

The handrails of such stairways may be of wood, all other material in such stairways in fireproof buildings shall be "fireproofed," or "incombustible" material, except cinder concrete.

If stairs are constructed of solid concrete, having the tread and riser in one piece then there shall be not less than forty-five square inches of concrete in the cross section of such combined tread and riser, and such stairs shall have reinforced concrete or metal outer strings.

If stone treads or platforms are used they shall have a metal sub-tread, or sub-platform of the same weight as if the metal alone were used.

If platforms have a floor arch sub-construction as described in Section 931 of this ordinance, then the metal sub-platform may be omitted.

SEC. 939. PAINTING.

All structural metal which is used in a fireproof building or which is used in any foundation or which is used in reinforced concrete work, shall be clean and free of rust, or scale at the time of the enclosure or covering of such metal. All metal which is not to be fireproofed shall have two coats of first-class metal protecting paint.

SEC. 940. RIVETS, MACHINE DRIVEN.

All structural steel and iron work shall be so riveted that the distance from the center of the rivet hole to the edge of the materials shall be not less than:

$\frac{5}{8}$ -inch for $\frac{1}{2}$ -inch rivets.

$\frac{7}{8}$ -inch for $\frac{5}{8}$ -inch rivets.

$1\frac{1}{8}$ -inch for $\frac{3}{4}$ -inch rivets.

$1\frac{3}{8}$ -inch for $\frac{7}{8}$ -inch rivets.

Wherever possible, however, the distance from the rivet hole to the edge of the material shall be equal to two diameters of such rivet hole. All rivets, wherever practicable, shall be machine driven; rivets in connections shall be proportioned and placed to suit the stresses and the pitch of rivets shall never be less than three diameters of the rivets nor more than six inches. All holes shall be punched accurately, so that upon assembling a cold rivet will enter the hole without straining the material by drifting. The rivets shall fill the holes completely, and, whenever necessary, gussets shall be provided of thickness and size to accommodate the number of rivets necessary to make a convenient system of lateral and sway bracing, and any connection.

SEC. 941. TRUSS DESIGNS TO BE SUBMITTED.

When steel or iron trusses are used the trusses shall be of

such design that the stress in each member may be calculated and all trusses when placed shall be held rigidly in position by member of a truss subjected to transverse stress in addition to direct tension or compression shall have the stress causing such strain added to the direct stresses coming on the member, and the total stresses shall in no case exceed the stresses provided for in Section 1004 of this ordinance.

SEC. 942. TRUSSES TO BE INSPECTED.

On all buildings in process of construction, where the plans call for the use of trusses, or iron and steel structural work, the erection of such iron and steel structural work and of such trusses shall be inspected thoroughly by an inspector from the Building Department of the city, and such inspector shall be a man well versed in the design and construction of structural steel and iron work, and it shall be the duty of such inspector to see that the provisions of this ordinance are strictly complied with, and such inspector shall have the authority to compel the contractors and builders to use a sufficient amount of temporary bracing or guys necessary to insure the safety of the work during its erection and to compel such contractors and builders to keep all derricks, tackles and hoisting appliances used in such work in a safe condition and to enforce all the provisions of this ordinance.

SEC. 943. BOLTS TO BE TURNED AND HOLES TO BE REAMED.

Wherever it is found impossible to rivet connections as herein described and such connections are bolted, the bolts shall be turned and the holes reamed so as to get a perfect fit.

All structural members which are temporarily bolted together shall be well bolted in every alternate hole.

SEC. 944. FIREPROOF BUILDINGS—HEIGHT OF.

The height of a fireproof building shall be measured from the average inside grade line of the street frontage of the building to the top of the highest point of the external bearing walls. Roof houses for elevators, or tanks, or skylights, or stairs, or scuttles may be built above the height of the main roof, and no building shall be erected in the city of greater height than two hundred and sixty feet.

SEC. 945. ROOFS—RISE OF ROOF ABOVE LIMIT OF HEIGHT.

In the case of buildings which are entirely fireproof in their construction and of which the roof is also entirely fireproof construction, the roof may rise above the limit of height of wall fixed by this ordinance for such buildings at a slope not to exceed thirty degrees with the horizon, and to a height not exceeding twenty feet above such limitation of the height of such wall. The space enclosed by such roof above the limitation of the height of such way may be used as an enclosure for pipes, ventilating or elevator machinery or for ventilating ducts, but

it shall not be lawful to use such space for purposes of storage, business or residence.

SEC. 946. SHEET METAL WORK, SUPPORT OF.

Wood shall not be used as the support of any sheet metal work or of any gutter or cornice of a building more than one hundred feet in height.

SEC. 947. REINFORCED CONCRETE—REGULATIONS IN REGARD TO THE USE OF.

The term "Reinforced concrete," as used in this ordinance shall be understood to mean an approved concrete mixture reinforced by steel of any shape, so combined that the steel will take up the tensional stresses and assist in the resistance to shear.

SEC. 948. STRESS.

Reinforced concrete construction shall be of such nature that the stresses can be calculated according to the accepted formulas of modern concrete engineering practice.

SEC. 949. PERMISSION TO ERECT.

Before permission to erect any reinforced concrete structure is issued, complete drawings and specifications shall be filed with the Commissioner of Buildings, showing all details of the construction, the size and position of all reinforcing rods, stirrups, etc., and giving the composition of the concrete.

SEC. 950. CONCRETE—MIXING OF—METHOD OF TESTING.

The concrete shall be mixed in the proportions of one of cement, three of sand, and five of stone, gravel or slag. The proportions shall be such that the resistance of the concrete to crushing shall not be less than two thousand pounds per square inch after hardening for twenty-eight days. The tests to determine this value shall be made by a competent engineer under the direction of the Commissioner of Buildings. The concrete used in reinforced concrete construction shall be what is usually known as a wet mixture.

SEC. 952. CEMENTS—METHOD OF TESTING.

Only high grade Portland cements shall be used in reinforced concrete construction. Such cements, when tested neat, shall after one day in air, develop a tensile strength of at least two hundred pounds per square inch; and after one day in air and six days in water shall develop a tensile strength of at least five hundred pounds per square inch; and after one day in air and twenty-seven days in water shall develop a tensile strength of at least six hundred pounds per square inch. Other tests as to fineness, constancy of volume, etc., made in accordance with the standard method prescribed by the American Society of Civil Engineers' Committee, may, from time to time be prescribed by the Commissioner of Buildings.

SEC. 952. SAND—TORPEDO.

The sand to be used in such concrete shall be clean, sharp torpedo sand, free from loam or dirt.

SEC. 953. STONE—CRUSHED, SLAG OR GRAVEL.

The stone used in such concrete shall be clean, crushed stone or gravel, or crushed blast furnace slag of a size that will pass through a three-quarter-inch ring. The stone shall be fresh broken, and the gravel shall be thoroughly washed.

SEC. 954. STEEL.

The steel used shall be calculated according to its elastic limit; for moving or vibrating loads a steel of a lower elastic limit than is used for quiescent loads shall be used.

SEC. 955. REINFORCING—METHOD OF.

All reinforcing steel shall be completely enclosed by the concrete, and such steel shall nowhere be nearer to the surface of the concrete than the diameter of such reinforcing steel bar, or rod or other shape. The steel in beams or girders shall be so disposed that there shall be not less than one and one-half times the thickness of the steel in concrete between the steel, and, where more than two bars are used the bars shall be placed in two or more planes.

Reinforced concrete shall be so designed that the stresses in the concrete and the steel shall not exceed the following limits: Extreme fibre stress on concrete in compression, five hundred pounds per square inch; shearing stress in concrete, seventy-five pounds per square inch; concrete in direct compression, three hundred and fifty pounds per square inch; tensile stress in steel, one-third of the elastic limit; shearing stress in steel, ten thousand pounds per square inch.

The adhesion of concrete to steel shall be assumed to be seventy-five pounds per square inch of surface where bars are three-quarters of an inch or less in diameter and proportionately less for bars of a diameter greater than three-quarters of an inch.

The ratio of the moduli of elasticity of concrete and steel shall be taken as one to twelve.

The following assumption shall guide in the determination of the bending moments due to external forces: Beams and girders shall be considered as simply supported at the ends, no allowance being made for continuous construction over supports. Floor plates, when constructed continuous and when provided with reinforcement at top of plate over the supports, may be treated as continuous beams, the bending moment for uniformly distributed loads being taken at not less than $W. L.$ divided by eight; the bending moment may be taken at $W. L.$ divided by twenty in the case of square floor plates which are reinforced in both directions and supported on all sides. The floor plate to the extent of not more than five times the width of any beam or girder may be taken as part of that beam or girder in computing its moment of resistance.

The moment of resistance of any reinforced concrete construction under transverse loads shall be determined by formulas based on the following assumptions:

(a) The bond between the concrete and steel is sufficient to make the two materials act together as homogeneous solid.

(b) The strain in any fibre is directly proportionate to the distance of that fibre from the neutral axis.

(c) The modulus of elasticity of the concrete remains constant within the limits of the working stresses fixed in this ordinance.

From these assumptions it follows that the stress in any fibre is directly proportionate to the distance of that fibre from the neutral axis.

The tensile strength of the concrete shall not be considered.

SIC. 956. CONSTRUCTION—REINFORCED CONCRETE.

Reinforced concrete construction shall be designed so that the shearing stresses, both vertical and horizontal, developed in any part of the construction, shall not exceed the safe working strength of the concrete as fixed in this ordinance or a sufficient amount of steel shall be introduced in such a position that the deficiency in the resistance to shear is overcome.

When the safe limit of adhesion between the concrete and steel is exceeded, some provision shall be made for transmitting the strength of the steel to the concrete.

SEC. 957. COLUMNS—REINFORCED CONCRETE.

Reinforced concrete may be used for columns when the ratio of length to least side or diameter does not exceed twelve. The reinforcing rods shall be tied together at intervals of not more than the least side or diameter of the column, or spirally wound steel may be used.

When vertical reinforcing rods are used in columns, such rods shall have their ends milled normal to the longitudinal axis, and such rods shall have full perfect bearings at each joint, and such joints shall occur only at floors or other points of lateral support and a tight fitting sleeve shall be provided at all joints of vertical reinforcing rods.

SEC. 958. WIND PRESSURE.

In the case of buildings in which allowances must be made for wind pressure as provided in Section 1013 of this ordinance, the reinforcing rods of columns shall be connected and the milled end surfaces shall be brought together by threading the rods and by threaded sleeve nuts, or threaded turnbuckles, or methods equally effective and satisfactory to the Commissioner of Buildings.

SEC. 959. TESTS—TO BE MADE BY CONTRACTOR ON DEMAND.

The contractor shall be prepared to make load tests on any portion of a reinforced concrete construction within a reasonable time after erection, as often as may be required by

the Commissioner of Buildings. Such tests shall show that the construction will sustain a load of twice that for which it is designed, without any sign of failure; or in the case of beams, girders or floors, without deflecting more than one-seven-hundredths of the span.

SEC. 960. REINFORCED CONCRETE WALLS.

Buildings of Classes I., II., III., VI. and VII. having a complete skeleton construction of steel or of reinforced concrete construction or a combination of both, designed to safely resist all of the strains caused by the dead weights of the structure and of the live loads and of the wind pressure within the safe limits of stress provided in this ordinance for each material used, may have walls of reinforced concrete six inches thick for the upper two stories and walls seven inches thick for the two stories next below the upper two stories and walls eight inches thick for the stories next below the upper four stories and walls nine inches thick for the stories next below the upper six stories, and so on downwards, increasing the thickness of the walls one inch for each two stories, or part thereof. Provided, however, that such walls shall support only their own weight and that such walls have steel rods three-quarters of an inch in diameter or of an equivalent area set vertically and spaced not more than eighteen inches apart, and steel rods five-eighths of an inch in diameter or of an equivalent area set horizontally tied to the vertical rod at each intersection with these and set not to exceed twenty-four inches apart, and provided that where the weight of the walls of each story is not transferred to the skeleton by spandril beams the vertical reinforcement shall be increased in weight in an arithmetical ratio of twice as much steel in the two stories next below the upper two stories and three times as much steel in the two stories next below the upper four stories, and so on downward. Vertical bars shall be spliced together by winding with iron wire. Horizontal bars shall be wired to the columns. Additional bars shall be set around openings the verticals wired to the nearest horizontal bars and the horizontal bars at top and bottom of openings shall be wired to the nearest vertical bars.

The steel rods shall be combined with the concrete and placed where the combination will develop the greatest strength, and the rods shall be staggered or placed and secured to the steel or reinforced concrete structural skeleton of the building, so as to resist a pressure of fifty (50) pounds per square foot, either from the exterior or from the interior on each and every square foot of each wall panel.

SEC. 961. MOULDED HOLLOW CONCRETE AND HOLLOW TILE BLOCK.

Moulded hollow concrete blocks or moulded hollow vitrified clay building blocks of the full thickness of a ten-inch wall may be used wherever eight-inch walls are called for by this

ordinance, and such blocks may also be used wherever twelve-inch brick walls are called for in this ordinance under frame cottages and in one and two-story Class III. and Class VI. buildings.

**SEC. 962. SLOW-BURNING CONSTRUCTION DEFINED.
SLOW-BURNING CONSTRUCTION.**

The term "slow-burning construction" shall apply to all buildings in which the structural members which carry the loads and strains which come upon the floors and roofs thereof are made wholly or in part of combustible material, but throughout which the structural metallic members shall be protected against injury from fire by coverings of incombustible, non-heat conducting material similar to those described under the head of "skelton construction," except that plastering and metallic lath may be used as provided herein. In the case of columns the metallic lath shall be fastened to metallic furrings and the plastering upon the same shall be of three coats of mortar. The lower five (5) feet of each column shall be protected as required for brick, concrete or tile covering in Section 923 of this ordinance. A covering of three (3) coats of plastering on metallic laths shall be considered sufficient protection for the under side of joists and girders and a layer of mortar or other incombustible material at least $1\frac{1}{2}$ inches thick shall be applied on all floors and roof surfaces above the joists of the same.

**SEC. 963. POSTS, PARTITIONS AND ELEVATOR
ENCLOSURES.**

Where oak posts of greater sectional area than one hundred square inches are used, they need not be covered. All partitions and all elevator enclosures in buildings of this type shall be made entirely of incombustible material. The use of wood furring or of stud partitions shall not be allowed in buildings of this type.

SEC. 964. STAIRS—TO BE INCOMBUSTIBLE.

Where buildings are required by this ordinance to be of "slow burning construction," all stairs in such buildings shall be of incombustible material.

**SEC. 965. MILL CONSTRUCTION DEFINED.
MILL CONSTRUCTION.**

The term "mill construction" shall apply to all buildings in which all the girders and joists supporting floors and roof have a sectional area of not less than seventy-two square inches and above the joists of which there is laid timber floor not less than three and three-fourths inches thick. Wooden posts used in buildings of this type shall not be of smaller sectional area than one hundred square inches.

SEC. 966. FIREPROOFING.

Partitions and elevator enclosures in buildings of this type shall be made entirely of incombustible material. If iron

columns, girders or beams are used in buildings of this type, they shall be protected as specified in Section 946 of this ordinance; but the wooden posts, girders and joists need not be protected by fireproof covering. The use of wood furring, wood laths or stud partitions shall not be permitted in buildings of this type.

SEC. 967. STAIRS—TO BE INCOMBUSTIBLE.

Where buildings are required by this ordinance to be of "mill construction" all stairs in such buildings shall be of incombustible material.

SEC. 968. CONCRETE CONSTRUCTION—APPROVED CINDER.

APPROVED CINDER CONCRETE CONSTRUCTION.

The term "approved cinder concrete construction" shall apply to all buildings in which all parts that carry weights or resist strains, all exterior walls, all interior walls, all interior partitions, all stairs and all elevator enclosures are made entirely of incombustible material, and in which all metallic structural members are protected against the effects of fire by approved cinder concrete proportioned, mixed, applied and secured as herein described. Approved cinder concrete construction may be used for all buildings in which fireproof construction is mandatory by this ordinance, or where ordinary construction may be used.

SEC. 969. CONCRETE—CINDER—APPROVED.

Approved cinder concrete shall consist of a standard Portland cement, torpedo sand, and clean, thoroughly burnt, steam boiler cinders, free from deleterious matter, no particle of which shall be larger than one inch.

SEC. 970. CINDERS—QUANTITY.

The volumetric quantity of the cinders combined with the torpedo sand shall not exceed the volume of the Portland cement by eight (8) times. All of the ingredients of approved cinder concrete shall be thoroughly worked and wet so as to cover each piece of cinder with moistened cement; and the cement and sand shall fill all of the voids between the cinders.

All approved cinder concrete shall be cast and rammed in an unset condition against the metal.

The minimum thickness of approved cinder concrete covering in structural metal shall be two (2) inches. In every case the thickness of the coverings shall be measured from the extreme projection of the structural metal unless otherwise provided in this ordinance.

SEC. 971. COLUMNS APPROVED—CONCRETE COVERINGS.

The approved cinder concrete covering of the columns shall be not less than three (3) inches in thickness from the extreme projection of the metal, including the plastering, and in all cases the cinder concrete shall be rammed solid against the column metal, filling all channels and open spaces within the

perimeter of the finished plaster column. Approved cinder concrete column covering shall have metal binders of No. 8 gauge wire imbedded in and around the columns for each sixteen (16) inches in height of the column, provided, however, that in buildings of approved cinder concrete construction the columns may be covered with one thickness of metal, furring metal, lathing and not less than three coats of mortar.

In places where there is trucking or wheeling, or handling of packages of any kind, the lower five (5) feet of each and every column shall be incased in a protective covering such as is described in Section 923 of this ordinance.

SEC. 972. BEAMS AND GIRDERS—APPROVED CONCRETE CONSTRUCTION.

The beams and girders of a building built of approved cinder concrete construction shall be enclosed in approved cinder concrete which shall be not less than two (2) inches in thickness at any and all points of the structural metal work. The approved cinder concrete covering shall be reinforced with metal clips or wire binders, either or both of which shall not be more than sixteen (16) inches on centers in the direction of the length of the structural member.

The top of all girders or beams shall be protected with not less than two (2) inches of approved cinder concrete.

A floor or roof construction of cinder concrete may be used for any span between structural members that will carry the test loads required by city ordinance for such floors and roofs.

SEC. 973. SEGMENTAL ARCHES.

Segmental arches shall be not less than three (3) inches in thickness at the crown.

SEC. 974. FLOORS—FLAT SLAB CONSTRUCTION.

Flat slab floor construction shall be not less than four (4) inches in thickness for spans of eight (8) feet or less. Flat slab construction shall be not less than five (5) inches in thickness for spans between eight (8) and ten (10) feet.

Approved cinder concrete shall not be used as a floor or roof construction unless such approved cinder concrete is reinforced by steel or iron, and such reinforcement shall not weigh less than three-quarters of a pound per square foot of superficial surface.

All reinforcing steel shall be completely enclosed by the concrete.

Wood nailing strips for floor surfacing may be used in buildings of approved concrete construction, provided, however, that such nailing strips shall be imbedded as described in Section 934 of this ordinance.

SEC. 975. PARTITIONS.

The partitions in buildings of approved cinder concrete construction shall be as described in Section 935 of this ordinance for partitions in fireproof buildings, provided, however, that

partitions may be built wholly of metal studding, metal lath and plaster, but no such partitions shall be of a lesser thickness than one and one-half ($1\frac{1}{2}$) inch.

The partitions around stairs, or stairhalls, or shafts, or elevators, or public lavatories, shall be wedged tight between the structure of the floors and ceilings, or if such partitions are of plaster, the metal or metal studding shall be secured to the structure by clips, bolts or other metal fastening, and in no case shall any such partition be built on the wood flooring or wood nailing strips.

SEC. 976. WALLS—ENCLOSING.

The enclosing walls, the covering of exterior side of mullions, beams, girders, lintels, the enclosure of pipes, pipe shafts, the doors into shafts, windows into shafts, covering of girders, covering of trusses, cut-out boxes, chases, stairs, landings, painting, rivets, bolts, inspection of truss designs, inspection of trusses, precaution against wind pressure, and all other items required in the sections on fireproof construction and in the sections on skeleton construction shall, in buildings of approved cinder concrete construction be designed or built or covered, or made of the material called for, or any one or a number of these requirements, as described in such sections describing the requirements of skeleton construction or of fireproof construction, in this ordinance, provided, however, that approved cinder concrete as described herein may be used for all protective covering of structural metal.

ORDINARY CONSTRUCTION.

SEC. 977. ORDINARY CONSTRUCTION DEFINED.

The term "ordinary construction," as used in this ordinance, means the ordinary system of construction in which timber and iron structural parts are not protected with fire resisting coverings.

GENERAL CONSTRUCTION REQUIREMENTS.

SEC. 978. CONSTRUCTION OR ALTERATION OF BUILDINGS.

Every building or structure or part thereof, hereafter constructed, erected, altered, enlarged or changed anywhere within the city, shall be so constructed, erected, altered, enlarged or changed only in accordance with the provisions of this ordinance.

SEC. 979. MATERIALS.

Materials used in the construction of buildings of all classes shall conform to the following specifications:

SEC. 980. FOUNDATION PROPORTIONS.

Foundations shall be proportioned to the actual average loads they will have to carry in the completed and occupied building.

SEC. 981. FOUNDATION CONSTRUCTION.

Foundations shall be constructed of either of the following:

Approved cement concrete, dimension or rubble stone, sewer or paving bricks or iron or steel or piles. If iron or steel is used, the filling and the coating of the same shall be of Portland cement as per Section 992 of this ordinance, piles shall be covered with grillage of timber, concrete or steel, or a combination of these. Where timber grillage or timber piles are used, the top of such grillage or such pile shall be at least one foot below city datum.

SEC. 982. FOUNDATION OF NEW AND OLD WALLS.

In all cases where there is an increase in the thickness of walls, a new foundation shall be built in such manner as to carry jointly both the new and old walls, and the soil under such foundations shall not be loaded beyond the limits hereinbefore specified in this ordinance. All foundations shall be protected against the effects of frost, and frozen cement mortar shall not be used in connection with building operations.

SEC. 983. FOUNDATIONS, PILE—BORINGS REQUIRED—SAFE LOAD REQUIRED—FIBRE STRESS.

Where pile foundations are used, augur borings of the soil shall first be made to determine the position of the underlying stratum of hard clay or rock, and the piles shall be made long enough to sustain the required load according to approved formulas for pile driving, and timber piles shall not be loaded more than twenty-five tons to each pile. The heads of the piles are to be protected against splitting while they are being driven, and after having been driven, the piles are to be sawed off to a uniform level and covered with a grillage so proportioned that in the transmission of the load from the structure to the pile the extreme fibre stress of the grillage shall not exceed the safe limits for the respective materials as prescribed in this ordinance. The safe compression load per square inch on concrete in concrete piles shall not exceed four hundred pounds. The area of the cross section shall be measured at a point six (6) feet below the head of the pile after the same has been set in place, and the cross section of the pile above this point shall not be reduced.

SEC. 984. FOUNDATIONS OTHER THAN PILE.

If foundations of other materials than piles are used, they shall be so proportioned that the loads upon the soil shall not exceed the limits for different kinds of soil than those hereafter given, to wit:

SEC. 985. LOAD FOR CLAY FIFTEEN FEET THICK.

If the soil is a layer of pure clay at least fifteen feet thick, without admixture of any foreign substance excepting gravel, it shall not be loaded more than at the rate of three thousand five hundred pounds per square foot. If the soil is a layer of pure clay at least fifteen feet thick and is dry and thoroughly compressed, it may be loaded not to exceed four thousand five hundred pounds per square foot.

SEC. 986. LOAD FOR SAND FIFTEEN FEET THICK.

If the soil is a layer of dry sand fifteen feet or more in thickness, and without admixture of clay, loam or other foreign substance, it shall not be loaded more than at the rate of four thousand pounds per square foot.

SEC. 987. LOAD FOR MIXED SOIL.

If the soil is a mixture of clay and sand, it shall not be loaded more than at the rate of three thousand pounds per square foot.

SEC. 988. FOUNDATIONS IN WET SOIL—TRENCHES TO BE DRAINED.

In all cases where foundations are built in wet soil, it shall be unlawful to build the same unless the trenches in which the work is being executed are kept free from water by bailing, pumping or otherwise, until after the completion of work upon the foundations, and in each case a connection with the street sewer shall be established before beginning the work of laying foundations.

SEC. 989. FOUNDATIONS—WHERE NOT PERMITTED.

Foundations shall not be laid on filled or made ground or on loam, or on any soil containing admixture of organic matter.

**SEC. 990. FOUNDATIONS—DEPTH BELOW SURFACE—
LEAST LIMIT—DEPTH REGULATED BY SEWER—
EXCEPTIONS.**

Foundations shall in all cases extend at least four feet below the surface of the ground upon which they are built, and in the case of all buildings forty feet or more in height, foundations shall extend at least to the depth drained by the street sewer in the neighboring streets or alleys; but if such sewers are at a greater depth than ten feet below the sidewalk grade, such foundations need not extend to a greater depth than ten feet, provided that sound, hard soil is found at that depth.

**SEC. 991. CONCRETE—BROKEN STONE—SAND—CEMENT
—MORTAR—FOUNDATIONS OF.**

Broken stone or concrete in making foundations shall be clean and free from dirt and dust. All sand shall be free from admixture of loam, and shall be otherwise clean and sharp.

Cement shall have been kept dry and shall be used fresh from the package; cement which has been permitted to become wet, hard or lumpy before it is mixed into the mortar or concrete, shall not be used.

The use of concrete or mortar of any kind, the ingredients of which are not thoroughly and completely mixed and which are not free from lumps, or other unmixed portions of any of the ingredients, is prohibited; and also the use of cement mortar which has become partly or wholly set before use. Concrete foundations wherever used shall have boxes of plank all around

them, and the concrete shall be well rammed in individual layers not more than six inches each in thickness. The ramming shall be continued until the water stands on the top of the mass of concrete.

SEC. 992. STEEL RAILS OR BEAMS IN CONCRETE.

If steel or iron rails or beams are used as parts of foundations, they shall be thoroughly imbedded in a concrete, the ingredients of which shall be such that after proper ramming, the interior of the mass will be free from cavities, the beams or rails shall be entirely enveloped in concrete, and around the exposed external surfaces of such concrete foundations there shall be a coating of a standard cement concrete not less than four inches thick.

SEC. 993. CONCRETE FOUNDATIONS—STEPS—SAFE LOAD WHERE REINFORCED BY BEAMS.

If concrete foundations are used by themselves and without the insertion of iron or steel beams or rails, the offset on top of same shall not be more than two-thirds the height of the respective courses, and such concrete foundations shall not be loaded more than twenty-five thousand pounds per square foot. If reinforced by iron or steel beams or rails, the loads and offsets in the same shall be so adjusted that the fibre stress upon the metal, if iron, shall not exceed twelve thousand pounds per square inch, or, if steel, that the fibre stress shall not exceed sixteen thousand pounds per square inch.

SEC. 994. DIMENSION STONES—SAFE LOAD.

Dimension stones shall have uniform beds and the offsets in the same, where two or more layers are used, shall not be more than three-quarters of the height of the individual stones. They shall be set with full beds of cement mortar under their entire area and in such manner that they will not rock after being set. Dimension stones in foundations shall not be subjected to a load of more than twenty thousand pounds per square foot in tiers.

If the beds of the stones are dressed and leveled off to uniform surface and the stones are set in a standard cement mortar, this strain may be increased to twenty-five thousand pounds per square foot.

SEC. 995. RUBBLE STONE.

Rubble foundations and rubble walls shall be built of approximately square and flat bedded stones, well and thoroughly bonded in both directions of the walls, each stone thoroughly bedded in mortar under its entire area. Wherever walls of any kind are used as curb walls, their exterior surfaces shall be rendered approximately water-tight by a coating of a standard cement mortar.

SEC. 996. BRICK—SOFT—USE OF—BOND—SAFE LOAD.

The use of soft brick is prohibited in all parts of buildings exposed to the weather and in internal or external piers, or

bearing walls. The bond of brick work shall be formed by laying one course of headers for every five courses of stretchers. Brick work in walls laid in a standard Portland cement mortar shall not be loaded more than twenty-five thousand pounds per square foot. Brick work laid in an ordinary cement mortar shall not be loaded more than eighteen thousand pounds per square foot. Brick work in walls laid in lime mortar shall not be loaded more than thirteen thousand pounds per square foot.

SEC. 997. WALLS—LEDGES—JOISTS SUPPORTS.

Whenever walls sixteen inches or less in thickness shall be used for the support of ordinary joists in buildings of all classes, ledges of the thickness of the furring, lath and plaster shall be formed between such joists and shall be carried up and leveled off on the line of the tops of the joists, or standard case iron joist boxes shall be used for the support of such joists.

SEC. 998. WALLS AROUND STAIRS, ELEVATORS AND SHAFTS.

Where a stairway, or an elevator shaft, or an air shaft is surrounded by brick walls, such surrounding brick walls may be built sixteen (16) inches thick, excepting that the upper fifty (50) feet of height, may be built twelve (12) inches thick, but the length or breadth, or either, of such a stairway or elevator shaft or air shaft shall not exceed twenty-five (25) feet and in no case shall the load on the brick of such wall or walls exceed the safe limits of load specified for brickwork in this ordinance.

SEC. 999. PRESSED BRICK FACING—BOND JOINTS.

If pressed brick facings are used, they shall be bonded into their backing every seventh course. Bond shall be established by solid headers or by blind headers. In the case of piers placed with pressed brick, only solid headers shall be used, but bond stones or iron bond plates may be substituted for such headers. Pressed brick in all cases shall be so laid as to have a full bed of mortar under its entire surface. The laying of pressed brick merely with a joint all around the outer edge of the bricks shall be unlawful.

SEC. 1000. BRICK PIERS—OFF-SETS—BOND STONE—CAP STONE.

In building brick piers, there shall be provided at every offset in each pier, or at every point where such brick pier receives the load, a bond stone at least eight inches thick or a plate of rolled iron or steel not less than one-fourth of an inch in thickness, which stones or plates if at the top of such pier shall cover its entire surface, and shall in all cases be adapted to receiving the load to be imposed and shall be made of a strength which will keep the fibre strain upon the material used within the limits elsewhere herein stated.

SEC. 1001. STONE FACING WITHOUT BOND COURSES.

Stone may be used as facing for brick walls under the following conditions: If the facing is ashlar, without bond courses, and the individual course thereof measures in height between bond stones more than six times the thickness of the ashlar, then each piece of ashlar facing shall be united to the brick-work with wrought iron anchors at least two to each piece and reaching at least eight inches over the brick wall, and hooked into the stone facing as well as the brick backing. Wherever ashlar as before described is used, it shall not be counted as forming part of the bearing surface of the wall, and the brick backing shall be of the thickness of wall herein specified for the different kinds of building.

SEC. 1002. STONE FACING WITH BOND COURSES.

If stone facing is used with bond courses at a distance apart of not more than four times the thickness of the ashlar, and where the width of bearing of the bond courses upon the backing of such ashlar is at least twice the thickness of the ashlar, and in no case less than eight inches, then such ashlar facing shall be counted as forming part of the wall, and the total thickness of wall and facing shall not be required to be more than herein specified for walls of the different classes of buildings.

SEC. 1003. STRESSES—CAST IRON—FIBRE—STRAINS—LENGTH.

The stresses in materials used in construction produced by the calculated strains due to their own weight and applied loads shall in no case exceed the following:

CAST IRON.

Extreme fibre strain tension..... 2,500 lbs.
For columns 10,000 lbs.

Reduced by Gordon's formula. Reduced for eccentric load.

No cast iron column shall have a length to exceed twenty-four times its diameter, or least side.

1004. STRESSES IN POUNDS PER SQUARE INCH.

	Wrought Iron.	Steel.
Extreme fibre stresses, "I" beams and shapes.....	12,000	16,000
Extreme fibre stresses, built beams.....	10,000	15,000
Tension	12,000	15,000
Shearing	7,500	10,000
Direct bearing pins and rivets.....	15,000	20,000
Bending on pine	18,000	22,500
*For columns and compression members.....	12,000	15,000

*Reduced for ration of length of columns to its least radius of gyration by approved modern formulas, and reduced for eccentric loading.

1005. TIMBER—STRESSES IN POUNDS PER SQUARE INCH.

	On Extreme Fibre.	Shearing Along Grain.	Compression Perpendicular to Grain.
White pine and spruce.....	750	80	150
White oak	1,000	150	250
Long-leaved yellow pine.....	1,250	100	250

SEC. 1006. POSTS WITH FLAT ENDS—STRESSES PER SQUARE INCH.

- L. Length of posts in inches.
 D. Least side or diameter of post in inches.
 S. Stress per square inch.

White Pine and Spruce.		L. L. Yellow Pine.		White Oak.
L. D.	S.	L. D.	S.	S.
0-10	625	0-15	1,000	750
10-35	475	15-30	875	650
35-45	375	30-40	750	560
45-50	300	40-45	625	460
		45-50	500	375

SEC. 1007. WALLS—EIGHT INCH BRICK WALL—HEIGHT LIMITED.

In no case, in any class of building, shall any eight-inch brick wall be more than fourteen feet in height.

GENERAL PROVISIONS.

SEC. 1008. CEMENT CONCRETE WALLS—SOLID.

Approved cement concrete of the same thickness as called for common brick or rubble stone, may be substituted for either of these materials wherever either is called for in this ordinance.

SEC. 1009. WALLS—THICKNESS OF.

The thickness of walls set forth in the tables for the various classes of buildings shall be, for each class of buildings, intended to apply to all external enclosing walls, and also to such internal walls as may be required under the specifications of the different classes of buildings.

SEC. 1010. BAY WINDOWS AND LIGHT SHAFTS—MATERIAL FOR.

Bay or oriel windows and light shafts may be built of combustible material, and as where specified in Section 307 of this ordinance.

SEC. 1011. BUILDINGS—HEIGHT OF.

The limits of heights of buildings hereinbefore given for non-fireproof buildings shall be from the average established sidewalk level to the highest point of roof thereof.

No buildings shall be erected in the city of greater height than two hundred and sixty feet from the sidewalk level to

the highest point of external bearing walls. The erection of parapet walls or of balustrades constructed entirely of incombustible material is permitted above the roof level of buildings of all classes, and in addition to the heights herein fixed for the same. (See Sections 944 and 945.)

SEC. 1012. (a) FLOOR AREAS—COMPUTATION OF—FOR ALL CLASSES OF BUILDINGS—STAIRS IN COMMON.

The floor areas of all buildings shall be computed from the dimensions taken on the inner side of the exterior or surrounding walls on the floor of the third story, and the areas of courts, of elevator shafts, of enclosed stairs, if enclosed with incombustible materials, and of chimneys, shall not be considered as a part of such floor areas.

Where two areas of the same building adjoin, and are separated by fireproof dividing walls, they may have a stairway in common. Provided, however, in fireproof buildings such stairs shall be of incombustible material, enclosed in fireproof partitions, and access to such stairway shall be direct from each such area. Provided, however, in buildings of mill, slow-burning and ordinary construction such stairs shall be of incombustible materials enclosed by brick walls, and that doors to such stairways shall be automatic, self-closing standard iron doors, as described in Section 110 of this ordinance, and all materials inside of such brick walls shall be fireproof or incombustible material.

SEC. 1013. WIND PRESSURE—PRECAUTIONS AGAINST.

In the case of all buildings, the height of which is more than one and one-half times their least horizontal dimensions, allowances shall be made in both vertical and horizontal construction for wind pressure, which shall not be figured at less than thirty pounds for each square foot of external wall surface.

SEC. 1014. BASEMENT—MEANING OF.

Wherever in this ordinance the words "basement story" is used it is intended to mean that the floor of such story is at a distance of two feet or more below the level of the sidewalk, and that its height does not exceed eleven feet in the clear. If the floor of such story is nearer than two feet to the sidewalk grade, or if the ceiling of such basement is more than nine feet above the sidewalk grade, it shall be counted as the first story of the building in which it occurs; except in buildings of Class VI. as defined in Section 610 of this ordinance.

SEC. 1015. CELLAR—MEANING OF.

Cellar is a story, the height of which is more than two-thirds below the level of the grade at the building.

SEC. 1016. SUB-BASEMENTS AND CELLARS—CONSTRUCTION OF.

No building may have more than one basement or cellar of ordinary or slow-burning, or mill construction, all additional basements or cellars shall be of fireproof construction as de-

scribed in this ordinance, all elevator enclosures shall be of brick from the lowest basement floor level to the first story floor, and all stairways shall be enclosed in fireproof partitions from the lowest basement floor level to the first story floor level with automatic closing standard iron doors, opening outwards.

In cases where a pipe, conduit, dumbwaiter, cable, wire, conveyor or belt, or any combination thereof, pass from one basement to another through a floor the opening in the floor shall be enclosed as specified in Sections 925, 926 and 927 of this ordinance.

The number and the width of stairs from the lowest basement floor to the first story shall be the same as required for the four highest stories of a building of the same area.

SEC. 1017. ENCLOSURES UPON ROOFS—PARAPETS AND BALUSTRADES UPON ROOFS.

It shall be permitted to erect on the roofs of all buildings more than sixty feet and less than one hundred feet high, skylights, enclosures for water tanks and enclosures for elevator machinery, the construction of all of which enclosures shall be entirely of incombustible material; provided, however, that the roofs of same may be built of mill or slow-burning construction.

SEC. 1018. FIRE WALLS—WEN DISPENSED WITH.

Fire walls of brick not less than twelve inches thick shall be built extending above the roofs of buildings if such roofs are flat, and also above the roofs of all buildings where the same abut against another building or where the same stand upon any line of any lot, excepting street or alley lines. Provided, that where eight-inch walls are permitted in the top story of buildings or as provided in Classes III. and VI. for buildings not over three stories high, the fire walls shall be of the same thickness. Such fire walls, where they stand upon lot lines or where they are over the dividing walls in the interiors of buildings where such are called for by this ordinance by reason of the great area of such buildings shall extend at least three feet above the roofs of such buildings. Fire walls upon street and alley lines shall extend not less than eighteen inches above the roofs of such buildings. Fire walls may be dispensed with on street and alley lines if the tops of the roof boards and roof joists are protected against fire for a distance of at least five feet from such street or alley lines by a coating of deafening mortar on hollow tile or porous tile at least two inches thick. Fire walls at street and alley lines may also be dispensed with in all cases where the entire framing and material of the roof shall be made strictly fireproof.

Walls facing upon courts and light shafts shall be treated as in the same category with walls facing upon streets and alleys.

Fire walls shall be covered with a weatherproof coping of incombustible material.

SEC. 1019. WINDOW AND DOOR SILLS INCOMBUSTIBLE.

Windows and door sills shall be made of incombustible material. Oak timber used for door sills and not less than eight inches thick by the full width of the wall in which such sills occur shall, for the purpose of this ordinance, be counted incombustible, but no other form or use of wood construction shall be considered incombustible.

SEC. 1020. STORE FRONTS—COLUMNS AND LINTELS SUPPORTING.

The columns and lintels supporting store fronts in buildings within the fire limits, of more than one story in height, shall be made of incombustible material.

SEC. 1021. ROOFS—SHINGLE OR GRAVEL.

The use of shingle roofs or of other forms of combustible roof covering upon buildings erected or altered within the fire limits is prohibited. Provided, however, that shingle roofs may be placed on buildings not exceeding two stories in height and two thousand square feet in area, but the shingles used on such roofs shall first have been dipped in fire-resisting paint, such fire-resisting paint to be approved by the Commissioner of Buildings.

Roofs whose slope is not more than three inches per foot horizontal, and the covering of which is made with a composition of felt and gravel, shall be considered incombustible under the provisions of this ordinance, and may be used upon buildings of all classes.

SEC. 1022. ROOFS—CONSTRUCTION OF—PITCH OF.

In the case of all buildings less than sixty feet in height, roofs having a slope of more than that specified for composition roofs may be made of timber and board construction, and shall be covered with incombustible material, except as provided in Section 1021 of this ordinance. The roofs upon buildings sixty or more feet and less than ninety feet high, and of greater slope than three inches to the foot and less slope than thirty degrees with the horizon, shall, if made of timber construction, have an incombustible covering upon the roof boards, which shall be made either of mortar or porous terra cotta or plaster boards, or other incombustible material, and which shall be at least two inches thick. If this covering is made upon the roof boards, wooden strips shall be inserted and securely fastened to the wooden substructure at regular intervals between the incombustible covering, and a weatherproof covering of incombustible material.

SEC. 1023. ROOFS—STRENGTH OF.

The roofs of all buildings of every kind and class shall be designed and constructed in such a manner that they will bear a load in addition to the weight of their structure and covering of at least twenty-five pounds for each square foot of horizontal surface.

SEC. 1024. ROOFS—PIPES CARRYING WATER FROM.

The water from all roofs shall be carried to the street sewers in metal conductor pipes, which shall be continually maintained in such condition that leaks therein will not cause the water to soak into the walls or any other part of the building.

SEC. 1025. CORNICES—GUTTERS—EAVES—PARAPETS—BAY WINDOWS.

Where sheet metal cornices or external sheet metal gutters are used their entire framework and covering shall be of metal, and the walls shall extend behind all such cornices or gutters along their entire height. All metal work in and about any cornice, gutter, eave or parapet, or in or about any bay or oriel window, shall be supported by suitable brackets placed not more than four feet apart and firmly secured to the wall. Wood shall not be used as the support of any gutter or cornice for buildings of one hundred feet or more in height.

SEC. 1026. TOWERS—DOMES AND SPIRES—CONSTRUCTION OF.

Towers, domes and spires may be built on top of the roofs of buildings, but shall not occupy more than one-fourth of the street frontage of any building. Such towers, domes or spires, if any part thereof is built to a height of more than sixty feet and less than ninety feet, shall be of slow-burning construction, and if of greater height than ninety feet above the sidewalk shall be of fireproof construction; and in all cases where the area of such spire, dome or tower exceeds one hundred square feet its supports shall be carried down to the ground, and shall be, if the construction supported is more than sixty feet, and less than ninety feet high, of slow-burning construction, and if more than ninety feet high of fireproof construction.

SEC. 1027—SKYLIGHTS—CONSTRUCTION OF—GLASS IN.

Any skylight on the roof of any buildings, other than a frame building, shall have the sides, sashes and frames constructed of metal; or of wood, metal clad on all exterior surfaces.

The glass in all such skylights, except in buildings of Classes III. and VI. not exceeding three stories in height shall have at least six inches over same, a strong wire netting (wire not lighter than No. 8 and mesh not coarser than one and one-half inch by one and one-half inch), unless the glass contains a wire netting within itself.

SEC. 1028. PORCHES—VERANDAS—PORTICOS—BALCONIES—CONSTRUCTION OF INSIDE FIRE LIMITS.

If verandas, porches or porticos are enclosed the enclosing walls shall be made of incombustible material, the only exception being in case such porticos or verandas are to be made part of a storm house or of a storm door enclosure, which, however, shall in no case be more than twelve feet high, nor shall

it occupy a greater frontage than two feet more than the width of the inner doors for which the storm doors are made.

SEC. 1029. SIDEWALKS—OCCUPATION OF BY PARTS OF BUILDINGS.

The use of any part of the sidewalks for steps or for open areas is prohibited.

SEC. 1030. CHIMNEYS—WALLS OF.

No chimney shall be built with less than four inches thick brick wall, and no chimney having a greater flue area than two hundred and sixty square inches shall have walls less than eight inches thick; provided that in all cases where chimneys are built with walls less than eight inches thick the same shall have flue liners of fire clay or terra cotta in their entire length. Except that where flues are to be used for gas grates or gas ranges the flue lining may be omitted, but the inside of the flue shall be smoothly plastered. The use of unprotected metal flues inside of buildings will not be permitted.

SEC. 1031. CHIMNEYS—HEIGHT ABOVE ROOF.

Every chimney having an area of not more than two hundred and sixty square inches shall be carried up to at least five feet above the highest part of roof of the building of which such chimney is a part, if such roof is a flat roof. If the roof is a pitched roof the chimney shall be carried up at least two feet above the highest point of same.

SEC. 1032. CHIMNEYS—INTERIOR—WALLS OF.

Chimneys having a greater flue area than six hundred square inches shall, if built of brick, have surrounding walls of at least sixteen inches of brickwork, and such walls shall be built hollow with at least four inches hollow space in such walls; at a height of fifty feet above smoke inlet the thickness of the surrounding brickwork may be reduced to twelve inches, but in all cases the surrounding walls of chimneys of this or any other size shall be so proportioned that the brickwork in same will not be subject to a greater stress than elsewhere herein fixed as a maximum safe stress for brickwork. For chimneys having a greater flue area than one thousand, six hundred square inches the thickness of walls shall be increased above the thickness above specified four inches for each increase of one thousand square inches or fractional part thereof.

SEC. 1033. CHIMNEYS OR FLUES—HEIGHT ABOVE ROOF.

All flues having a greater area than two hundred and fifty square inches and not more than six hundred square inches shall be carried up at least twelve feet above the highest point of roof of building of which they form part; and all flues having a greater area than six hundred square inches and not more than nine hundred square inches shall be carried up at least twenty feet above highest point of roof. All chimneys having a greater area than nine hundred square inches shall be carried

to a height of at least twelve feet above any roof within a radius of sixty feet; provided that the top of the chimney shall be not less than twenty feet above the highest point of the roof of the building of which it forms a part.

SEC. 1034. CHIMNEYS OR FLUES—LININGS OF.

All flues having a greater area than four hundred square inches shall be lined on the inside with insulating material, which lining shall start at least two feet below the smoke inlet, and for flues having an area of from four hundred to six hundred square inches shall extend twelve feet above smoke inlet, and for all flues of more than six hundred square inches and not more than one thousand, six hundred square inches shall extend twenty feet above smoke inlet, and for all flues having a greater area than one thousand, six hundred square inches shall extend at least thirty feet above smoke inlet. If an internal smoke pipe of metal is used, so much of the brickwork as is inside of the insulating cavity of the stack may be omitted. Metal smokestacks shall, however, be lined with insulating material for at least thirty feet of their height.

If internal stacks in buildings be made of metal, then they shall be entirely surrounded within the building with a fire-proof material which shall thoroughly protect the building from fire, and there shall be an air space not less than four inches in the smallest part between the fireproofing and the metal stack.

SEC. 1035. CHIMNEYS—INTERIOR—FRAMING AROUND.

No joists or girders shall rest and be supported on the walls of any chimney, and the framing around chimneys of all kinds shall be so constructed that in no case will any joists or timbers be placed nearer than two inches from the outside face of walls of flues, and in no case shall the distance from the inside of any flue to any joists or timbers be less than seven inches.

The foregoing shall apply only to chimneys which are enclosed by, or form part of, the interior of any building.

SEC. 1036. CHIMNEYS—EXTERNAL LOCATION OF.

Chimneys may be built outside of the walls of existing buildings (but not in such manner as to encroach upon any street or alley), and shall be built as follows:

If at least one side of such chimney abuts entirely upon the wall of an existing building and the chimney is throughout its entire length securely and firmly anchored to the walls of such existing building, the wall of such chimney may be built of hollow tiles, in which case, however, it shall have a castiron base, lined with fire brick, and extending to a height of at least ten feet above the street or alley grade.

SEC. 1037. CHIMNEYS—EXTERNAL—BUILT OF IRON OR STEEL.

Such external chimney may also be built of rolled steel or iron not less than one-fourth inch in thickness, and lined with

insulating material, laid in fire clay, for at least thirty feet above the street or alley grade, or it may be built throughout its entire height of castiron, in which case the first ten feet above street or alley grade shall be lined with insulating material; provided, however, that in chimneys not exceeding five hundred square inches the upper twenty-five feet may be constructed of steel or iron not less than one-eighth inch thick.

SEC. 1038. CHIMNEYS—ISOLATED.

Isolated chimneys shall be so designed and constructed that the stress upon any part thereof, due from the weight of the stack itself and from wind pressure, shall never exceed the safe limits as provided in this ordinance.

SEC. 1039. CHIMNEYS OR SMOKESTACKS—FOUNDATION OF.

The foundations of chimneys or smokestacks, whether inside or outside of buildings, or whether connected with the same or isolated, shall be designed and built in conformity with the provisions relating to foundations of buildings hereinbefore given.

SEC. 1040. SMOKE FLUES PASSING THROUGH PARTITIONS.

Where smoke flues of diameter of six inches or less pass horizontally through a wood or a plastered stud partition they shall be surrounded by a ventilated thimble of incombustible material.

Where a smoke flue of a greater diameter than six (6) inches passes through a wood or plastered stud partition it shall be surrounded either by a body of brick, hollow tile, porous terra cotta or other incombustible substance, measuring at least eight (8) inches all around such smoke flue. Smoke flues of less diameter than twelve inches shall be kept at least twelve inches distant from any combustible partition, ceiling or floor, and such woodwork immediately over and for a distance of two feet on each side of such smoke flue shall be covered with sheet metal or with porous terra cotta or hollow tile or with plaster.

SEC. 1041. SMOKE FLUES—WOODWORK AROUND.

Smoke flues of greater diameter than twelve inches and less area than six square feet shall be kept at least twenty inches away from any woodwork, and such woodwork shall be protected as before specified for the smaller smoke flues to a distance of four feet on each side of such smoke flues.

Wherever smoke flues of larger area than six-square feet are used they shall be kept at least three feet distant from any woodwork, and such woodwork for a distance of at least six feet on either side of such smoke flues shall be protected as before specified for smaller flues.

SEC. 1042. FLOORS—PROTECTION OF—AROUND BOILERS, FURNACES, ETC.

Wherever steam boilers or furnaces or ovens, coffee roasters

or other structures in which fires are maintained, are set inside of a building or in a room with wooden flooring or ceiling construction, the floor of the same shall be protected by a covering of brick or concrete not less than five inches thick set in mortar upon a continuous sheet metal bearing plate not less than three-sixteenths of an inch thick, all the joints of which are to be securely riveted and the edges of which are to be turned up five inches all around. This foundation of sheet metal and brick and concrete shall extend under the whole of the fire box and ash pit of such steam boiler or furnace or other structure, and to a distance of not less than ten feet in front and at least four feet on the other three sides of same.

SEC. 1043. CEILING—PROTECTION OF—AROUND BOILERS, FURNACES, ETC.

The space between the tops of such steam boilers or furnaces and any wood ceiling construction shall in no case be less than three feet, unless such boiler be a low pressure boiler, in which case such space shall be not less than eighteen inches, and the under side of such wood ceiling construction shall in all cases be protected either by three coats of plastering on metallic lath or wire netting, or at least two inches of porous terra cotta plastered on the under side, or by a covering of hollow tile with two air spaces at least one-half inch each between the wood and the under surface thereof, which under surface shall also be covered with a heavy coat of plastering.

SEC. 1044. BOILERS—LOCATION OF PERMIT FOR.

In all cases boilers shall be so placed as to give ample room between any ceiling, wall or partition to connect or operate any valves or pipes or other connections used on such steam boilers, and in buildings of 4,000 or more square feet in area the size, number and location shall be marked on the plans before a permit is issued by the Building Department.

SEC. 1045. CUPOLAS OF FOUNDRIES.

Cupolas of foundries shall extend at least ten feet above the highest point of any roof within a radius of forty feet of such cupola and shall be covered on top with wire netting.

SEC. 1046. PIPES FOR DISTRIBUTION OF HOT AIR.

Where pipes are used for the distribution of hot air from a hot-air furnace, such pipes shall be made of metal and shall be double. The space between the two metal pipes shall be at least one-half inch. Such pipes are to be made with air-tight joints and to be securely fastened to the partitions through which they pass.

SEC. 1047. REGISTERS—OPENINGS IN FLOOR FOR.

The openings in floors for hot air registers shall be surrounded with borders of incombustible material not less than two inches wide, and firmly and securely set in place. The register boxes shall be double, the distance between the two thicknesses of tin being at least one inch.

SEC. 1048. PIPES, DUCTS AND REGISTERS—MATERIAL FOR.

Where the air conveyed through pipes is heated in an ordinary hot-air furnace, or in any other apparatus by direct contact of the air with a fire box, the material used for these double ducts, pipes and register boxes shall be bright tin, and the joints shall be double-seamed but not soldered. Where the air is heated by contact with hot water or steam pipes, any other sheet metal may be used for the pipes, and the use of double pipes is not obligatory.

SEC. 1049. DOORS AND WINDOWS—WHEN REQUIRED TO BE CLOSED—FIRE-RESISTING GLASS.

Wherever the distance between doors and windows in buildings of Classes I., II., IV., V., VII. and VIII. on opposite sides of alleys or courts shall be less than thirty feet, or wherever the distance between such doors and windows and any inside lot line of any lot upon which such building is erected is less than fifteen feet, or wherever the distance between such doors and windows and the alley line (where the alley is less than thirty feet wide) is less than fifteen feet, such windows and the glazed portion of such doors shall be made of fire-resisting glass, set in frames of incombustible material.

Where the windows in buildings of Class I. on lot line courts are less than two feet from the lot line the sashes shall be stationary.

SEC. 1050. CLASS OF BUILDING NOT TO BE CHANGED WITHOUT CONFORMING TO PROVISIONS OF THIS ORDINANCE.

If buildings, the uses of which bring them within any of the before mentioned classes, are to be applied to the uses of any other class for which a better system of construction is called for by this ordinance the construction and equipment of such buildings shall first be made to conform to the requirements of this ordinance as specified for their intended use. And it shall be unlawful to apply any such building to a new or different use than that to which its structure and equipment adapts it under this ordinance, unless the requirements of this ordinance for such new or different use shall first have been complied with, and a permit for such alteration of use shall have been first obtained from the Commissioner of Buildings.

SEC. 1051. ALTERATION OF EXISTING BUILDINGS.

Nothing in this ordinance contained shall be considered as requiring alterations in the construction or equipment of buildings in existence at the time of the passage of this ordinance, and which at the time of their construction were built in compliance with the ordinances then in force, unless such buildings shall not have sufficient or adequate means of egress therefrom or ingress thereto by reason of insufficient or inadequate stairways, or stairways improperly located, or insufficient or inade-

quate elevators or elevator equipment, doors, fire escapes, windows or other means of egress or ingress.

Where it shall appear to the Commissioner of Buildings that any such building has inadequate or insufficient means of egress therefrom or ingress thereto, as aforesaid, he shall notify the owner, agent or person in possession, charge or control of such building of such fact and direct him forthwith to make such alterations and changes in the construction or equipment of such building as are necessary to be made in order to promote the safety of the occupants of such building, and of persons using the same and of the public.

If, however, it is desired to enlarge, or in any manner materially modify the construction of any existing building, or to make change in its use or occupation which will transfer it from one class as recognized by this ordinance to another class, then before such enlargement or structural change or modification of building is made, or before such change in its use or occupation may be made, the entire building shall be reconstructed or modified in such manner as to bring the same when enlarged or altered, or when occupied for its new and different purposes, in accordance with the provisions of this ordinance.

SEC. 1052. WALLS OF ALTERED BUILDINGS—INCREASING THICKNESS OF.

If the walls of a building are not of sufficient thickness to comply with the requirements of this ordinance for an enlarged or modified building, then the thickness of the existing walls shall be increased by building alongside of them a new wall, which shall not, however, be less in any part thereof than twelve inches thick, and which shall be increased in thickness by four inches for at least every forty feet in the height of such wall. Such new wall shall be laid in Portland cement mortar and shall be anchored to the old wall (bonding with brick or masonry will not be considered as complying with this ordinance); and if an increase in the height of the building is contemplated, the wall from the top of the old wall shall be built jointly upon the new and old walls. If solid masonry buttresses are introduced in connection with such thickening and strengthening of existing walls, the intervening wall may be reduced to eight inches in thickness, provided such buttresses are sufficient in number and in area to make the resultant structure of equal strength with the solid wall already specified. Provided, however, that steel or iron columns or beams may be used instead of such new wall, such columns or beams to be bolted or bonded to the existing wall in a manner satisfactory to and approved by the Commissioner of Buildings.

SEC. 1053. WALLS—PARTY.

The provisions of the preceding section shall also apply to all cases where existing party walls are to be joined to for the erection of new buildings. But in the case of party walls, which at the time of their erection were built in accordance

with the terms of the city ordinances then in force, such walls, if sound and in good condition, may be used without increase of thickness for any building not higher than and of the same class as the building for which the original wall was built.

SEC. 1054. WALLS—ERECTION OF—WALLS AND SKELETON FRAMEWORK SECURELY BRACED.

In the erection of buildings of masonry construction no wall shall be carried up at any time more than two stories above another wall of the same building. The walls and skeleton framework of all buildings shall be kept securely braced and otherwise protected against the effects of the weather during all building operations.

SEC. 1055. TANKS ON ROOFS—PERMITS.

It shall be unlawful for any person to construct, maintain or to allow or permit to remain, in or upon the roof of any building in the city, any water tank of a larger capacity than four hundred gallons, unless such tank shall rest upon a good and sufficient foundation of solid brick or stone masonry, or upon iron girders set on steel plates which rest upon a good and sufficient foundation of solid brick or stone masonry, or upon iron or steel construction. Provided, however, that no water tank of a capacity exceeding four hundred gallons shall be constructed in or upon any building without first obtaining therefor a permit from the Commissioner of Buildings and paying therefor a fee of two dollars.

SEC. 1056. STAIRS AND FIRE ESCAPES—OBSTRUCTION OF.

It shall be unlawful under any circumstances to close up or obstruct during the occupation for business purposes of any building, the stairways or fire escapes or the approaches leading thereto, and no change in the position or construction of any such stairway or fire escape shall be made unless the permission so to do of the Building Department first shall have been obtained.

FRAME BUILDINGS.

SEC. 1057. PERMITS FOR RAISING OR ALTERING BUILDINGS—REQUIREMENTS.

Permits to alter or raise wooden buildings shall be given, provided they do not involve an enlargement or raising of such buildings beyond the limits of dimensions herein prescribed for frame buildings, and if the stresses upon the material thereof are kept within the safe limit of stresses herein prescribed in this ordinance, and if, further, such frame building has not been damaged to any extent greater than fifty per cent of its original value by fire, wear and tear, the action of the elements or otherwise. Provided, however, where any frame building is raised for the purpose of erecting a basement story under the same the walls inclosing such basement shall be of masonry.

SEC. 1058. STRENGTH OF TIMBER CONSTRUCTIONS OUTSIDE OF FIRE LIMITS.

The provisions of this ordinance as to the strength and stability of timber constructions shall also apply to the construction of frame buildings outside of the fire limits.

SEC. 1059. FRAME BUILDINGS PROHIBITED.

Hereafter no frame building shall be erected within the fire limits of the city, except where express provision is made in this ordinance therefor.

SEC. 1060. FRAME BUILDINGS OUTSIDE FIRE LIMITS.

Outside of the fire limits it shall be lawful to erect frame buildings not exceeding forty feet in height from the sidewalk to the highest point of room. If such frame buildings have a basement story of masonry, their height above the sidewalk may be made not to exceed forty-five feet.

SEC. 1061. FRAME BUILDINGS INSIDE FIRE LIMITS—ALTERED OR ENLARGED.

No existing frame buildings inside the fire limits shall be altered or enlarged beyond the limit of height and dimensions described in Sections 1060 and 1064 of this ordinance.

SEC. 1062. FRAME BUILDINGS WITHIN THE FIRE LIMITS CHANGED INTO FLAT BUILDINGS—FIRE WALLS.

Whenever any frame building within the fire limits shall be remodeled, altered or changed for the purpose of using the same for flats or apartments, or whenever such frame building shall be occupied for flat or apartment purposes, each suite of apartments in such building shall be separated from every other suite of apartments in such building by a wall of incombustible material, of such dimensions and thickness as required by this ordinance.

SEC. 1063. FRAME BUILDINGS—RAISING—REQUIREMENTS—CHANGING GABLE OR HIP ROOFS TO FLAT ROOFS.

Permission may be granted by the Commissioner of Buildings for the raising of existing frame buildings, whether within or without the fire limits, to the limits of height hereinbefore fixed for new frame buildings, and no more. The Commissioner of Buildings is also authorized to issue permits for changing gable or hip roofs of existing frame building to flat roofs, and for the raising of walls incident to such change. But if such hip or gable roof is changed to a flat roof and the walls raised in connection with such change, the total cubic contents included by the walls so raised and the roofs so altered shall not exceed the cubic contents originally included in such gable or hip roofs.

SEC. 1064. FRAME BUILDINGS—DAMAGED—REPAIRING—LIMITATIONS.

It shall not be lawful to repair or reconstruct or remove any

frame building which has been injured more than fifty per cent of its original cost by wear and tear by the effects of the elements or by fire.

SEC. 1065. LOT LINES—REQUIREMENTS AS TO—NUMBER—DIMENSIONS.

Frame buildings shall not be built nearer than one foot to any line of the lot upon which they are built, street and alley lines excepted. It shall not be lawful to erect a frame building wider than forty feet nor deeper than seventy feet, unless such building be divided by a fire wall or fire walls, built of incombustible material and of a thickness to be approved by the Commissioner of Buildings so that no more than two thousand, eight hundred square feet of superficial area shall be contained in any section or part of such building, unless inclosed by such fire wall. If more than one frame building is built in the direction of the depth of any one lot, such buildings shall not be built with a less distance than ten feet between them.

SEC. 1066. CHIMNEYS IN FRAME BUILDINGS.—CHIMNEY FLUES THROUGH PARTITIONS.

Chimneys in frame buildings shall be built of brick, or of hollow tile, with a double tile wall around the smoke duct; all joints, whether in tile or in brick chimneys, shall be well filled with mortar and neatly pointed on the outside. Brick chimneys shall have flue linings of fire clay on the inside where the inclosing walls are less than eight inches thick. The wood framing of frame buildings shall be trimmed around chimneys in such manner as not to come within two inches of the same.

Metal smoke pipes or tile flues of single thickness shall not extend through the floors or through the ceiling or roof of any building; and where such smoke pipes or tile flues pass through partitions the woodwork of such partitions shall be protected either by a course of brick built all around such smoke pipes or tile flues, or by a thimble made of bright tin, the two rings thereof being at least three inches apart, with proper ventilating holes provided in the outer covering of the same on both sides of the partitions.

SEC. 1067. FRAME BUILDINGS CARRIED TO UNIFORM HEIGHT.

Frame buildings, the different parts of which are of different heights, may be carried up to a uniform height, provided the greatest height thereof does not exceed the limits of height prescribed for frame buildings.

SEC. 1068. BASEMENT OR STORY PLACED BENEATH FRAME BUILDING.

A frame building may be raised for the purpose of erecting a basement or story, or both, thereunder, but the principal floor of such frame building shall not be raised to a higher level than sixteen feet above the sidewalk grade of the sidewalk upon which such premises abut. The walls inclosing such basement or story shall be of masonry and not less than twelve inches

thick, excepting that when a one-story frame building is raised and has a basement only built thereunder the masonry wall of such basement may be eight (8) inches thick above grade and twelve (12) inches thick below. The foundations of such walls shall be constructed as provided in this ordinance. Provided, however, that no frame building shall be raised for the purpose of constructing a basement or story, or both, under the same to a greater height to the top of its roof than that elsewhere herein given as the maximum height above grade for frame buildings. The thicknesses of walls hereinabove required shall also apply to new frame buildings.

SEC. 1069. SHEDS—FRAME—REQUIREMENTS.

Sheds not exceeding fourteen feet in height from the ground at the highest part thereof, and not exceeding three hundred feet in area, with an incombustible roof, may be constructed of wood within the fire limits. Such sheds shall not be located on the front part of any lot, nor shall they be used as a dwelling or as an addition to a dwelling house, or for any business purpose whatever, nor shall more than one shed be erected on any one building lot of twenty-five feet in width.

SEC. 1070. SHEDS—OPEN SHELTER—HEIGHT OF WALLS AND FOUNDATION.

Open shelter sheds may be constructed within the fire limits, provided they have incombustible roofing and the highest point of the roof thereof is not over fifteen feet above the ground, and provided that the roofing be supported on sufficient posts or piers. Such sheds shall have no combustible inclosing walls or wooden floors. No fence shall be used for the back or sides of such shed.

If it is desired or intended to inclose an open shelter shed, the inclosing walls shall be made of brick, stone, hollow tile or other incombustible material, and such walls shall have foundations extending to solid ground and at least four feet below the surface of the ground.

SEC. 1071. SHEDS—COAL SHEDS ALONG RAILROAD TRACKS.

Open shelter sheds to be used for the storage or handling of coal may be erected within the fire limits upon, along or adjacent to steam railroad tracks, or along navigable waters; provided, such sheds shall have incombustible roofing and shall not exceed thirty-five feet in height from the ground to the highest point of the roofing. If it is desired or intended to inclose any such shed, inclosing walls thereof shall be covered with incombustible material. No such coal shed shall be built upon any lot or parcel of ground fronting upon any street within seventy-five feet of any building used chiefly for residence purposes, unless the consent of the owners of a majority of the frontage on both sides of such street between the two nearest intersecting cross streets shall first have been obtained by the

person or corporation desiring to erect and maintain such coal shed.

SEC. 1072. LUMBER OR JUNK YARDS—LUMBER OR JUNK NOT TO BE PILED NEAR RESIDENCES EXCEPT BY CONSENT.

No person or corporation shall establish, maintain, conduct or operate any lumber yard or place at, upon or in which new or second-hand lumber is kept for sale or is stored for seasoning or drying, old iron or junk, on any premises fronting on any street in any block where two-thirds of the buildings on any street bounding any such block are used chiefly for residence purposes, unless the written consent of the owners of a majority of the frontage on both sides of all the streets bounding the block in which it is proposed to locate, establish, conduct or maintain such lumber yard or place be first obtained by the person or corporation desiring to establish, maintain or operate such lumber yard or place consenting to the issuance of a license for the establishment, keeping or maintenance of such lumber yard or place, and such written consent shall accompany the application for a license made by such person or corporation.

SEC. 1073. LUMBER NOT TO BE PILED NEAR PLANING MILLS, WOOD-WORKING ESTABLISHMENTS OR PRIVATE RESIDENCES.

No person or corporation shall pile or store, or cause to be piled or stored, any lumber for the purpose of seasoning or drying the same or storing same, or keeping such lumber for sale at any point within fifty feet of any planing mill, wood-working manufactory or private residence unless same has been erected since the establishment of such yard.

SEC. 1074. GRAND STANDS—FRAME—WITHIN THE FIRE LIMITS—FRONTAGE CONSENTS.

Wooden grand stands or tiers of seats, commonly known and described as grand stands, may be erected within the fire limits where no part of any such structure shall be within sixty feet of any other building or structure, provided that the person or corporation desiring a permit for the construction of such a grand stand shall first obtain the consent in writing of the owners of a majority of the frontage on both sides of the street or streets on each side of the block or square in which it is desired to erect such grand stand.

SEC. 1075. ICE HOUSES.

Houses to be used exclusively for the storage of ice may be constructed within the fire limits, of wood with incombustible roofing, the walls to be inclosed with an envelop of incombustible material; eight-inch brick or tile or approved cement concrete walls with proper foundations of masonry shall be used for such envelops, and such houses shall be used for no other purpose than the storage of ice.

ELEVATORS AND HOISTWAYS.

SEC. 1076. ELEVATORS, PASSENGER AND FREIGHT—
PERMIT FOR CONSTRUCTION—FEE.

Before proceeding with the construction of any passenger or freight elevator, except such as are hereinafter specially exempted from the provisions of this ordinance, there shall be obtained from the Commissioner of Buildings by the owner or agent of the building in which such elevator is to be constructed or by the contractor who is about to construct such elevator a permit for such construction, and it shall be unlawful for any such owner, agent or contractor to permit or allow the construction of any such elevator, or to proceed with, or in or about any of the work of construction of any such elevator until such permit shall first have been obtained. Such permit shall be issued by the Commissioner of Buildings after application shall have been made to him in writing therefor by any such owner, agent or contractor, specifying the number and kind of elevators which it is desired to construct and the location of the building or structure in which the same is or are to be placed, accompanying such application with such plans and specifications as may be necessary to advise and inform said Commissioner of the plan of construction, type of elevator and location thereof. If such plans and specifications shall show that such elevator or elevators is or are to be constructed or erected in conformity with the provisions of this ordinance, the Commissioner shall approve the same and shall issue a permit to such applicant upon the payment by such applicant of a fee of two dollars for each elevator to be constructed and erected, and such fee shall be known as a construction fee, and shall not be held to cover the cost of any inspection which shall at any time thereafter be made of such elevator or elevators when constructed or any of the equipment thereof.

Any person, either as owner or agent of any building or structure in which any elevator or elevators is or are to be constructed, or any contractor engaged in erecting or constructing such elevator or elevators, who shall allow to be erected or constructed, or who shall attempt to erect or construct any elevator or elevators in any building or structure, without having previously obtained the permit herein required, and without having complied with the provisions of this section, shall be fined not less than fifty nor more than two hundred dollars for each offense.

SEC. 1077. TESTING OF SAFETY DEVICES.

Every passenger or freight elevator hereafter constructed (except such as are hereinafter excepted from the provisions of this ordinance) in any building within the city shall be provided with some efficient device to secure the safe operation of such passenger or freight elevator in its running up or down, and such device shall be subjected to such practical test as may be determined by the Commissioner of Buildings to ascertain the efficiency of such safety device to properly perform the ser-

vice for which it is intended; and it shall be the duty of the Commissioner of Buildings to cause to be made such test of each and every device upon any such elevator hereafter constructed, and no such elevator hereafter constructed shall be permitted to run until the inspection herein provided for has been made and a certificate issued by the Commissioner of Buildings or such inspector that the same has been inspected, and the certificate shall be posted in a conspicuous place in such elevator. Every passenger or freight elevator now in operation within the city shall be provided with some efficient device to procure the safe operation of such passenger or freight elevator in its running up and down, and such device shall be subjected to the same test as is herein provided for elevators to be hereafter constructed, and a certificate of such inspection issued as provided for elevators to be hereafter constructed, and every such elevator now in operation within the city, or which may hereafter be constructed and operated in the city, shall be inspected under and by authority of the Commissioner of Buildings at least once every six months. Every owner or agent of any building who fails to comply with any provision of this section shall be fined not less than fifty dollars nor more than two hundred dollars for each offense, and every owner or agent of any building wherein any passenger or freight elevators are situated in the city who refuses to permit the inspection of any such elevator or who refuses to permit the making of the test in this section provided shall be fined not less than twenty-five dollars nor more than two hundred dollars for each and every day on which such elevator runs or is operated on and after the date of the refusal to permit inspection of such elevator or the refusal to allow such test to be made.

SEC. 1078. SAFETY DEVICES—FURTHER.

Every passenger or freight elevator now running or operating within the city, or which may hereafter be constructed and run and operated, shall be provided with some efficient device for the purpose of preventing the cab or car of such elevator from falling, or the securing of the safety of the cab or car and its load, in case it does fall, and all such devices that are applied to such passenger or freight elevator for the purpose of preventing such cab or car from falling or for stopping it in case it does fall shall be subjected to a practical test, such test to be made under the supervision of the Commissioner of Buildings, to determine the efficiency of such device and to secure the safety of the cab or car and its contents. Every person, whether owner or agent of any building wherein any such passenger or freight elevator within the city is now run or operated, or which may hereafter be constructed or operated, who shall fail or neglect to provide such passenger or freight elevator with such device for the purpose of preventing the cab or car from falling, or the securing of the safety of the cab or car in case it does fall, shall be fined not less than twenty-five dollars nor more than two hundred dollars for each and every day on which

such elevator is run or operated without being provided with such device.

SEC. 1079. TESTS—OWNER MUST PERMIT.

Any owner or agent of any building wherein any passenger or freight elevator is run or operated within the city who desires to have a test made by and under the authority of the Commissioner of Buildings as to whether such elevator or elevators is provided with sufficient and proper safety devices shall or may notify said Commissioner of Buildings in writing that such a test is desired and the time when such test may be made, which shall be not less than two nor more than ten days after such notice is given to the Commissioner of Buildings; and it shall be the duty of every owner or agent of any such building wherein any such passenger or freight elevator is run or operated in the city, or which may hereafter be constructed and operated, to permit the making of the test of such devices upon demand being made by the Commissioner of Buildings or by a duly authorized inspector, and every owner or agent of any such building wherein any such passenger or freight elevator is run or operated, or which may be hereafter constructed and operated, who refuses to permit the test of such devices to be made upon demand of said Commissioner of Buildings or Elevator Inspector, within five days from and after such demand is made, shall be fined not less than twenty-five dollars nor more than two hundred dollars for each and every day on which such passenger or freight elevator is run or operated after such demand for and refusal of the making of such test.

SEC. 1080. CERTIFICATE TO BE FURNISHED AND POSTED.

Whenever any such elevator shall have been inspected and the tests herein required shall have been made of all safety devices with which such elevator is required to be equipped, if the result of such inspection and tests shall show such elevator to be in good condition, satisfactory to the Commissioner of Buildings or the Inspector of Elevators, and that such safety devices have been provided, in accordance with the requirements of this ordinance, and are in good working condition and in good repair, it shall be the duty of the Commissioner of Buildings or Inspector of Elevators to issue or cause to be issued, upon the payment of the inspection fee required by the provisions of this ordinance, a certificate setting forth the result of such inspection and tests, and whether such elevator and its equipment is in safe condition and in good working order. Such certificate shall be furnished to the owner or agent of the building wherein such elevator is operated, and shall be posted by such owner or agent in a conspicuous place in such elevator.

If the result of such inspection or tests shall show such elevator not to be in safe condition or not to be in a condition of good repair, or shall show that such devices, or any of them, have not been furnished, or, if furnished, are not in good working order or in a good condition of repair, such certificate shall

not be issued until such elevator and its equipment or such safety device or devices shall have been put in good working order and in a good condition of repair, satisfactory to the Commissioner of Buildings or the Inspector of Elevators.

In any event, however, the inspection fees herein required shall be paid either at the time application is made for inspection or upon the completion of such inspection and tests.

SEC. 1081. TESTS TO BE MADE SEMI-ANNUALLY.

It shall be the duty of the Commissioner of Buildings to cause the tests to be made as provided for in Sections 1077, 1078 and 1079 of this ordinance of each passenger and freight elevator in the city at least once in every six months from and after the issuance of the first certificate.

SEC. 1082. INSPECTORS—DUTIES OF.

Whenever any inspector of any passenger or freight elevator finds any of the running parts or automatic devices, or other equipment, out of order or in an unsafe condition he shall immediately report the same to the Commissioner of Buildings, together with a statement of all the facts relating to the condition of such elevator or elevators.

SEC. 1083. POWER TO SHUT DOWN ELEVATORS.

It shall be the duty of the Commissioner of Buildings, upon receiving a report from any Inspector of the unsafe condition of any elevator, to order and cause such elevator to be stopped from use until the same shall have been placed in a safe condition, and any owner or agent of any building wherein any such passenger or freight elevator is run or operated within the city who permits or allows any such elevator to run after the receipt of a notice, in writing, from the Commissioner of Buildings that any such elevator is out of order, or is in an unsafe condition, shall be fined not less than twenty-five dollars nor more than two hundred dollars for each and every day on which such elevator is run or operated without being put in a safe condition or placed in good order.

SEC. 1084. DEVICE—EFFICIENT—TO BE APPROVED.

Any device which shall prove efficient for the purposes hereinbefore described in this ordinance shall be approved by the Commissioner of Buildings, if, after a test by said Commissioner or any of his elevator inspectors, it is found that such device or devices satisfactorily performs the work it is intended should be performed by such device or devices in and by the provisions of this ordinance.

SEC. 1085. INSPECTIONS TO BE MADE AT THE SAME TIME—ONE FEE.

All certificates for and inspections of hoistways and elevators provided for in this article shall be made at the same time and the fee required to be paid by Section 1087 of this ordinance shall include the cost of all such inspections and issuance of such certificates.

SEC. 1086. ELEVATORS NOT REQUIRED TO BE EQUIPPED WITH SAFETY DEVICES.

The provisions of this ordinance requiring the equipment of elevators with safety devices shall not apply to any elevator or elevators in any private residence not more than three stories in height, nor to any hand hoists, elevator or hoist used solely for hoisting materials or tools in any building in course of construction.

For the purposes of this section flat or apartment buildings shall not be held to be private residences, and any elevator or elevators operated in such flat or apartment buildings shall be equipped with safety devices in accordance with the provisions of this ordinance.

SEC. 1087. INSPECTIONS—FEES.

The owners, agents or occupants of any building in which an elevator is used shall pay to the City Collector, before a certificate of inspection is issued a fee of two dollars for each inspection of each elevator made in pursuance of the provisions of this ordinance.

SEC. 1088. CERTIFICATES OF INSPECTION—CONSTRUCTION—DETAILS OF.

When an inspector finds a hoistway, door, shaft and elevator and its equipment, including safety devices, in a sound and safe condition, he shall make and deliver to the owner, or to his agent, a certificate signed by the Commissioner, which shall contain the date of inspection, the condition of the elevator at that date, the weight it may safely carry, and that the shaft, doors and all equipments, including safety devices, are constructed in a safe and proper manner and are constructed in accordance with the provisions of this ordinance, which certificate shall be by the owner of the elevator framed and put in some conspicuous place in such elevator for examination by the public; provided that the words "safe condition" in this section shall mean that it is safe for any load up to the amount of weight named in such certificate.

SEC. 1089. HATCH—DOORS—FREIGHT ELEVATORS.

It shall be lawful for elevators used exclusively as freight elevators to be without inclosing walls, but in all such cases there shall be at every floor through which such freight elevators pass automatic hatch closers or automatic doors, made in such manner that they will fully close each well hole when the temperature in such well hole exceeds one hundred and forty degrees Fahrenheit; and it shall be the duty of the owner, agent or person in possession, charge or control of the building in which such elevator or elevators is or are maintained to keep such hatch closers or doors at all times in good working order, and any such owner, agent or person failing to do so shall be fined not less than twenty-five dollars nor more than two hundred dollars for each offense.

Before any doors shall be considered as complying with the

provisions of this ordinance they shall be examined by the Commissioner of Buildings and the Fire Marshal, and if it be found by such officials that such doors will automatically close when the temperature at or near the same exceeds one hundred and forty degrees Fahrenheit, and that also the conditions of construction and operation of such doors or hatch closers are such that there is no reasonable probability of their getting out of order and failing to operate when required, and if there is nothing in their construction or operation that is likely to cause accidents to or interference with the elevator service in the hatch holes which they are intended to close, then, and in such case only, shall the use of such hatch closers or doors be permitted.

But such automatic hatch closers or doors shall only be permitted in cases where the building in which such freight elevator is in use shall be equipped with stairways, or stairways and passenger elevators, sufficient to afford ample means of escape from such building in case of fire for all persons employed or for all persons in such building, and in buildings not so equipped such freight elevators shall be inclosed in fireproof walls, as hereinafter required.

Provided that all freight elevators herein specified shall be either enclosed in fireproof walls, as hereinafter required, or equipped with automatic hatch closers or doors as herein specified; and provided, further, that this section shall not apply to elevators in fireproof buildings.

SEC. 1090. PASSENGER AND FREIGHT ELEVATORS— INCLOSURE OF.

In all non-fireproof buildings all passenger elevators and all freight elevators, except such as are expressly excepted by this ordinance, shall be enclosed in a wall of brick, tile or such other incombustible material as may, from time to time, be approved by the Commissioner of Buildings as proper and suitable for the purpose; such wall to extend from the foundation to the roof of such building, and when built of brick or tile to be entirely self-sustaining; provided, that where such elevator shafts are placed within walls or partitions of fireproof material surrounding such shafts in common with stairways or in common with stairways and corridors additional inclosures about such shafts alone shall not be required. Provided, further, however, that the provisions of this section shall not apply to any non-fireproof building which is equipped throughout on every floor and in every room thereof and in all stairways, platforms, elevator shafts, elevator hoistways and well holes with an automatic sprinkler system approved by the Fire Marshal.

SEC. 1091. DOORS—ON ELEVATORS.

In all elevator shafts which are herein required to be inclosed with fireproof walls, the openings through which ingress and egress to and from such elevators is had, shall be equipped with fireproof doors, of iron or other incombustible material to be approved by the Building Commissioner, which shall be made

to open from the inside, except that they shall also be made to open from the outside by means of a key or other device satisfactory to the said Commissioner.

SEC. 1092. SKYLIGHTS—OVER ELEVATORS—WINDOWS.

The roof of each such passenger elevator, shaft or inclosure shall be formed by a skylight, and passenger elevators shall have a ventilator of at least one-twentieth of the area of the shaft, which shall have an operating device which shall be operative from each and every floor. Skylights may be omitted in shafts wherein there are windows opening on streets, alleys or courts or other vacant spaces, which will permit sufficient light and air, but such windows shall be glazed with fire-resisting glass.

The foregoing provisions relating to elevators and hoistways shall apply to buildings now existing or hereafter constructed.

SEC. 1093. SAFETY OF EMPLOYEES—PROVISIONS FOR.

In every factory, workshop, or other place or structure where machinery is employed, the belting, shafting, gearing, elevators and every other portion of machinery, when so located as to endanger the lives and limbs of those employed therein while in the discharge of their duties, shall be, as far as possible, so covered or guarded as to make them reasonably safe and to prevent injury to such employees.

FIRE ESCAPES AND STANDPIPES.

SEC. 1094. BUILDINGS REQUIRED TO HAVE FIRE ESCAPES AND STANDPIPES.

All buildings of four or more stories in height, in the city, except buildings used exclusively for private residences having two flights of stairs leading from the ground floor to the top floor of the building, shall be provided and equipped with one or more metallic standpipes and ladders combined, or stair fire escapes, as described in Section 1102 of this ordinance, with wrought iron or steel balconies, with suitable railing at each floor, and firmly secured to the outer walls, and in such locations and numbers as shall be satisfactory to the Commissioner of Buildings, the Fire Marshal and the Fire Escape Inspector.

All such fire escapes shall be put up and completed to conform to the buildings for which they are respectively intended, and shall be inspected after completion, and if found in a perfectly safe and satisfactory condition a certificate shall be issued by the Commissioner of Buildings to that effect to the owner, agent or occupant of any such building, upon payment to the city collector of a fee of one dollar.

SEC. 1095. SPECIFICATIONS FOR LADDER FIRE ESCAPES.

All single and double fire escapes, with ladders, hereafter erected, shall be in strict accordance with the following specifications:

There shall be no less than three one-inch square wrought iron

anchors to every six-foot balcony, and six for a twelve-foot balcony. Such anchors shall pass through the wall of building and bolt on the inside with a three-fourths by two-inch nut and three and one-half inch iron washer back of nut, where the wall is not over twenty inches thick; but where wall is over twenty inches thick anchors shall be inserted at least eight inches into the wall on an angle of thirty-five degrees.

The brace of anchors shall at least be twenty inches spread, and pass into the wall four inches at bottom. No other form of anchors shall be allowed without a special permit from the Commissioner of Buildings.

SEC. 1096. BALCONIES.

All balconies hereafter erected shall be either steel or wrought iron, capable of sustaining a weight of five hundred pounds to the square foot. The balcony frame shall be made of not less than one and one-half by three inches angle iron, securely riveted together, with crossbars every two feet, such bars to be punched one-half inch square every two inches center, and one-half inch square iron forced through the same, leaving a manhole of not less than twenty-four by twenty-four inches. The crossbars to be securely riveted to the angle iron frame. The crossbars for a balcony twenty-eight inches wide to be one and one-half by three-eighths inch iron. Balcony frames over twenty-eight inches wide shall be made of not less than two by three-eighths inch iron to conform with the increased dimensions of iron in crossbars; for thirty-inch balcony, two by three-eighths inch; for thirty-six inch balcony or over, two and one-half by three-eighths inch. All balconies over this width shall have a two-inch "T" iron through the center of balcony for the bars to rest upon. Such balconies to have a substantial cast or wrought iron post every three feet, bolted to the balcony. No balcony shall have less than two guard rails, same to be of wrought iron, or new pipe not less than three-fourths inches in diameter, and the ends to be anchored in the wall of building not less than ten inches on an angle of thirty-five degrees.

SEC. 1097. LADDERS.

The ladder, where used in combination with the standpipe, shall be bolted to such standpipe with short tapped bolts every four feet and bolted to the balconies. Rungs of ladder to be one-half inch square iron, with the corners upward, so as to give a safe footing. Every other rung to be riveted and to be fourteen-inch centers. Where ladder is put up without a standpipe the side guards shall be two by three-eighths inch flat iron or one and one-fourth inch pipe. All ladders shall be seventeen inches or more between pipes. No second-hand pipe shall be used.

SEC. 1098. STANDPIPES OUTSIDE BUILDINGS.

The standpipes shall be of the best three-inch wrought iron, seven and one-half pounds to the foot, and a two and one-half

inch brass hose valve, of the city standard thread, shall be attached to the standpipe at every outlet at each floor and on the roof.

SEC. 1099. STANDPIPES INSIDE—BUILDINGS, HOTELS
AND LODGING HOUSES OVER THREE STORIES TO
HAVE—LOCATION AND MAINTENANCE OF
SUBJECT TO APPROVAL BY FIRE
MARSHAL—PENALTY.

Inside of every building of any of the classes hereinbefore defined which is over one hundred feet in height and inside every building over three stories in height which is occupied exclusively or chiefly for hotel or lodging house purposes, there shall be one four-inch standpipe, extending from pump to roof, also connection for fire department and check valve against pump; one hose connection on each floor and roof, with fire department thread and enough hose attached to reach any point of the floor; such hose shall be subject to the approval of the Fire Marshal. Each such standpipe shall be located and maintained to the satisfaction and approval of the Fire Marshal and shall at all times be connected either with a pump or with a tank upon the roof of such building, in such a manner as to be capable of furnishing a good stream of water sufficient for the use of the Fire Department and at a pressure of not less than fifty pounds to the square inch. The owner, agent, occupant or person in possession, charge or control of any such building herein required by the provisions of this section to be equipped with a standpipe who shall refuse, neglect or fail to have such standpipe so connected as to be at all times ready and capable of furnishing a stream of water at a pressure of not less than fifty pounds to the square inch shall be fined not less than fifty dollars nor more than two thousand dollars for each offense.

SEC. 1100. SIAMESE.

There shall be a two-way automatic Siamese at the bottom of each standpipe, so that two steam fire engines may be attached to it without interfering with each other. Such Siamese shall be within easy reaching distance from the sidewalk and be securely anchored to the wall of the building.

SEC. 1101. ANCHORS FOR TOP OF STANDPIPE—PAINT-
ING.

All the anchors for the top of standpipe and ladders shall pass through the wall and bolt on the inside of same.

All work shall be painted with two coats of the best mineral paint, and all holes shall be filled up with the best cement.

SEC. 1102. STAIRWAY FIRE ESCAPES—ERECTION OF—
LOCATION.

The Commissioner of Buildings or Fire Escape Inspector shall determine upon the location of all stair fire escapes before erection of same is commenced.

A permit shall be obtained from the Department of Build-

ings before work is commenced, which permit will be issued on payment to the City Collector of a fee of two (\$2) dollars.

No permit for a stairway fire escape projecting three feet or more from the face of the wall shall be granted unless a detailed plan for the fire escape, approved by a licensed architect or practicing structural engineer, is submitted to the Commissioner of Buildings, and a copy of such plans shall be left on file with said Commissioner.

(Anchors.)—All anchors for stairway fire escapes shall, wherever possible, pass through the wall of building and be secured on inside of same. Where it is impossible to anchor through walls anchors shall be put in wall not less than fifteen inches at an angle of thirty-five degrees. On buildings of steel construction, where walls are less than twenty inches in thickness, there shall be steel channels at least four inches set on inside of building from column to column and bolted or riveted to columns, and anchors shall be bolted on inside of channels.

Anchors for a platform four feet two inches or less in width shall be made of one-inch square iron; over four feet two inches and not over six feet shall be one and one-fourth inch square iron, with brace; over six feet shall be one and one-half inch square iron, with brace. All anchors shall be turned up not less than six inches at the outside of platform to bolt post to.

(Braces.)—Braces shall be the same thickness as the anchors. Spread of braces shall be the width of platform. Where the platforms are over five feet in width anchors shall have double braces, one to the outside and one to the center of platform.

(Platforms.)—Platforms shall be not less than fifty inches wide at ends; passageways shall be not less than twenty-four inches between buildings and railings. Platforms shall be not less than twelve feet in length. The frames and crossbars shall be made as specified by Section 1096 of this ordinance. Platforms shall have clips at each end bolted to anchors. No door or window or shutter shall open so as to obstruct in any way the free passage on or along a platform or a staircase or ladder fire escape.

(Stairs.)—All fire escape stairs for apartment buildings, hotels, boarding houses, factories and office buildings, where there are less than one hundred people, shall be not less than two feet wide between railings and stringers. Where there are more than one hundred people stairs shall be three feet wide. All stairs for halls, churches, theaters, hospitals, schools, apartment stores and buildings where large numbers of people congregate shall be not less than three feet wide in the clear, and all passage ways shall be not less than three feet wide in the clear; stringers shall be made of two bars three by five-sixteenths inches, about one inch apart, or four and one-half by three-eighths inch flat iron. Where over twelve feet in length they shall have anchor and brace in center. The treads shall be made of one-half inch square steel or iron, corner upwards, not to exceed one and five-eighths inches center, riveted at ends

to two by five-sixteenths inch flat iron or steel. There shall be not less than four bars to a tread where treads are less than twenty-seven inches in length; where treads are over twenty-seven inches in length there shall be not less than six bars to a tread; then there shall be a truss supporting treads made of bar iron two inches by three-eighths of an inch, riveted to bars of treads in center, supported by two seven-sixteenths inch rods bolted at each end of treads. All stairs shall have an incline of about forty-five degrees; rise of treads shall be not less than seven inches and not more than ten inches.

(Railings.)—All stairs shall have three bar railings made of one-inch bar iron for top rail, and three-quarter inch bar iron for lower rail, and when such stairs are more than three inches from wall of building, then there shall be one or more hand rails on the wall side of such stairs.

(Posts.)—All posts used for stair fire escapes shall be made of one and one-half inch angle or channel iron not less than three feet six inches high, and shall have braces on outside turned upwards and fastened to frame of balcony or stairs and not less than half way up the post; all stair fire escapes shall extend to the ground, either by counterbalance or drop stairs. Cable for counterbalance stairs shall be not less than three-quarters inch in size, and shall be well oiled or greased when hung up and oiled or greased at least once a year. All pulleys and cables holding counterbalance shall be covered at bracket, so as to protect it from snow or ice.

(Painting.)—All stair fire escapes shall be painted with two coats of paint, one at the shop and one after completion at the building.

Where it is impossible to erect stair fire escapes according to these specifications, then plans shall be submitted to the Commissioner of Buildings or Fire Escape Inspector for approval.

All such fire escapes shall, on completion, be inspected by the Fire Escape Inspector and if found safe and satisfactory a certificate will be issued upon payment of one (\$1) dollar to the City Collector.

SEC. 1103. FIRE ESCAPES.

No fire escape of any kind shall be constructed except upon a permit therefor issued by the Commissioner of Buildings upon the payment by the applicant therefor to the City Collector of a permit fee of two dollars.

Every building in the city required by law to be equipped with metallic standpipes and wrought iron or steel balconies, or other fire escape devices, shall have displayed in conspicuous places, on each floor of such building, notices sufficient in number and in plainly legible type at least six inches in height, indicating and showing the location of such metallic ladders, balconies and fire escapes and the easiest way to reach them. If such notices be not displayed within thirty days after such

equipment and kept continuously displayed, said Commissioner is authorized to take such action as may be necessary to have such building closed.

SEC. 1104. PENALTY.

Any owner, agent or person in possession, charge or control of any such building, who violates, disobeys, omits or neglects to comply with the terms of the foregoing section, shall be fined not less than five dollars nor more than fifty dollars for each offense, and every such owner, agent or person shall be deemed guilty of a separate offense for every day such violation, disobedience, omission or neglect shall continue, and shall be subject to the penalty imposed hereby for each and every separate offense.

Where stair fire escapes pass windows or doors, the windows or doors shall be of fire-resisting glass and have metal frames and sash, or such fire escapes shall be hooded with metal for at least two feet each side of such opening.

FIRE LIMITS.

SEC. 1105. FIRE LIMITS OF CITY.

The fire limits of the City of Chicago shall be and are hereby defined as follows: All that part of the City of Chicago bounded by the following limits: Commencing at the intersection of the shore of Lake Michigan and a line one hundred and fifty feet north of the center line of Belmont Avenue, thence west on said first mentioned line to the center line of North Halsted street, thence south along said center line of North Halsted street to the center line of Fullerton avenue, thence west along said center line of Fullerton avenue to the center of the North Branch of the Chicago river, thence northwesterly along the center of said North Branch of the river to the center line of Belmont avenue, thence west along said center line of Belmont avenue to the center line of Kedzie avenue, thence south along said center line of Kedzie avenue to the center line of West North avenue, thence west along said center line of West North avenue to the center line of North Fortieth avenue, thence south along said center line of North Fortieth avenue to the center line of the first alley north of Park avenue, thence west along the center line of said alley to the center line of South Forty-sixth avenue, thence south along said center line of South Forty-sixth avenue to the center line of West Madison street, thence west along the center line of West Madison street to the center line of South Forty-eighth avenue, thence north along said center line of South Forty-eighth avenue to the center line of Kinzie street, thence west along said center line of Kinzie street to the center line of South Fifty-second avenue, thence south along said center line of South Fifty-second avenue to the center line of West Madison street, thence east along said center line of West Madison street to the center line of South Forty-eighth avenue, thence south along said

center line of South Forty-eighth avenue to the center line of West Jackson street, thence east along said center line of West Jackson street to the center line of South Forty-sixth avenue, thence south along said center line of South Forty-sixth avenue to the center line of West Harrison street, thence west along said center line of West Harrison street to the center line of South Forty-eighth avenue, thence south along said center line of South Forty-eighth avenue to the center line of West Twelfth street, thence east along said center line of West Twelfth street to the center line of South Forty-sixth avenue, thence south along said center line of South Forty-sixth avenue to the center line of West Twenty-second street, thence east along said center line of West Twenty-second street to the center line of South Fortieth avenue, thence south along said center line of South Fortieth avenue to the center line of the Illinois and Michigan canal, thence north-easterly along the center line of said canal to the center line of South Western avenue, thence south along said center line of South Western avenue to the center line of West Thirty-ninth street, thence east along said center line of West Thirty-ninth street to the center line of State street, thence south along said center line of State street to the north line of West Forty-seventh street, thence west along said north line of West Forty-seventh street to a line seventy-five feet west of the west line of South Halsted street, thence south along said line seventy-five feet west of the west line of South Halsted street to a line seventy-five feet north of the north line of West Sixty-third street, thence west along said line seventy-five feet north of the north line of West Sixty-third street to the center line of South Ashland avenue, thence south along the center line of South Ashland avenue to the center line of West Sixty-third street, thence east along said center line of West Sixty-third street to the center line of State street, thence south along said center line of State street to the center line of East Seventy-fifth street, thence east along said center line of East Seventy-fifth street to the shore of Lake Michigan, thence northerly and northwesterly along the shore of Lake Michigan to the place of beginning.

Also commencing at a point in the center of Manistee avenue where it intersects the right of way of the main line of the Lake Shore and Michigan Southern railroad; thence north-easterly and north along the center line of Manistee avenue to the center line of Eighty-ninth street, thence east along the center line of Eighty-ninth street to the center line of Mackinaw avenue, thence south along the center line of Mackinaw avenue to the center line of Harbor avenue, thence southwesterly along the center line of Harbor avenue and Harbor avenue extended to the northeasterly line of said Lake Shore and Michigan Southern railroad, thence northwesterly along the northeasterly line of said right of way to the place of beginning.

SEC. 1106. FIRE LIMITS—PROVISIONAL.

Provided, however, that any person desiring to erect a frame or wooden building, to be used for residence or mercantile purposes, within that portion of the territory bounded on the east, between Sixty-seventh and Seventy-fifth streets, by Lake Michigan, on the south by the center line of Seventy-fifth street, on the west by the center line of State street to the intersection of Sixty-third street, thence east along the center line of Sixty-third street to the intersection of Cottage Grove avenue, hence south along the center line of Cottage Grove avenue to the intersection of Sixty-seventh street, thence east along the center line of Sixty-seventh street to Lake Michigan, shall have a right to do so, upon presenting a petition to the Commissioner of Buildings, together with a plat, plans and specifications showing the place where such building is to be erected. Such petition shall be verified by the affidavit of the applicant and shall contain the written consent of the owners of a majority of the frontage upon each side of the streets or alleys in the block or square in which the building is to be erected.

No frame or wooden residence or mercantile building shall be erected within the said provisional fire limits exceeding forty feet in height unless the basement story shall be constructed of brick or stone, in which case the height shall not exceed forty-five feet above the sidewalk.

SEC. 1107. FIRE LIMITS—EXCEPTION FROM.

There shall be excepted from the fire limits as hereinbefore defined, the territory bounded as follows:

Commencing at the intersection of a line seventy-five feet west of the west line of State street and a line seventy-five feet south of the south line of Forty-seventh street; thence west along said line seventy-five feet south of the south line of Forty-seventh street to a line seventy-five feet east of the east line of Wentworth avenue; thence south along said line seventy-five feet east of the east line of Wentworth avenue to a line seventy-five feet north of the north line of Sixty-third street to a line seventy-five feet west of the west line of State street; thence north along said line seventy-five feet west of the west line of State street to the place of beginning.

Also that territory within the lines beginning at the intersection of a line seventy-five feet west of the west line of Wentworth avenue and a line seventy-five feet south of the south line of Forty-seventh street; thence west along said line seventy-five feet south of the south line of Forty-seventh street to a line seventy-five feet east of the east line of South Halsted street; thence south along said line seventy-five feet east of the east line of South Halsted street to a line seventy-five feet north of the north line of Sixty-third street; thence east along said line seventy-five feet north of the north line of Sixty-third street to the center line of Princeton avenue; thence north along said

center line of Princeton avenue to the center line of Sixty-first street to a line seventy-five feet west of the west line of Wentworth avenue; thence north along said line seventy-five feet west of the west line of Wentworth avenue to the place of beginning.

FRONTAGE CONSENTS.

SEC. 1108. DEFINITION OF WORD "BLOCK," AS USED IN THIS ORDINANCE.

Whenever in this ordinance a provision is made that frontage consents shall be obtained for the erection, construction, alteration, enlargement or maintenance of any building or structure in any block, the word "block," so used, shall not be held to mean a square, but shall be held to embrace only that part of a street bounding the square which lies between the two nearest intersecting streets, one on either side of the point at which such building or structure is to be erected, constructed, altered, enlarged or maintained, unless it shall be otherwise specifically provided.

SEC. 1109. HOSPITALS—PERMITS—SPECIAL CONSENTS—HEIGHT OF.

It shall be unlawful for any person or corporation to build, construct, maintain, conduct or manage in any block, if two-thirds of the buildings fronting upon both sides of the streets bounding such block or square are devoted chiefly to residence purposes, any hospital for the care, treatment or nursing of three or more insane persons; or any hospital for the care, treatment or nursing of three or more inebriates, or persons suffering from the effects of the excessive use of alcoholic liquors; or any hospital for the care, treatment, or nursing of three or more epileptics; or any hospital for the care, treatment or nursing of three or more persons addicted to, or suffering from, the excessive use of morphine, cocaine or other similar drugs or narcotics; or any hospital for the care, treatment or nursing of any person or persons effected with any infectious or contagious disease, unless the owners of a majority of the frontage in such block and in addition thereto the owners of a majority of the frontage on the opposite sides of the streets bounding such block consent in writing to the building, construction or maintaining, managing or conducting of any such hospital in such block. Such written consents of the majorities of such property owners shall be filed with the Commissioner of Buildings, and an exact copy of same shall be filed with the Commissioner of Health before a permit shall be granted for the building or constructing or a license issued for the maintaining, conducting or managing of any such hospital. Provided that any such building that may be used for such purposes as set forth in this section and which is over two stories in height shall be of fireproof construction throughout, and no hospital shall be built to exceed six stories in height.

SEC. 1110. HOSPITALS NEAR SCHOOL-HOUSES—LOCATION OF.

No hospital of any kind or description hereafter erected or established shall be erected or established within four hundred feet of any property used for school purposes.

SEC. 1111. STABLES—GAS RESERVOIRS—BLACKSMITH SHOPS—FOUNDRIES—PACKING HOUSES—RENDERING PLANTS—SOAP FACTORIES—TANNERIES—BREWERIES—DISTILLERIES—GRAIN ELEVATORS—JUNK SHOPS—LAUNDRIES—SPECIAL CONSENTS NECESSARY.

It shall not be lawful for any person, or corporation to locate, build, construct, or maintain, on any street or alley in the city, in any block in which two-thirds of the buildings on both sides of the street are used chiefly for residence purposes, any building for a boarding, livery or sale stable, gas reservoir, blacksmith shop, foundry, packing house, rendering plant, soap factory, tannery, brewery or distillery, grain elevator, junk shop, or laundry to be run by machinery, without the written consent of a majority of the property owners, according to frontage, on both sides of such street or alley.

Such written consent shall be obtained and filed with the Commissioner of Buildings before a permit is issued for the construction of any such building. Provided, that in determining whether two-thirds of the buildings on both sides of the street are used chiefly for residence purposes any building fronting upon another street and located upon a corner lot shall not be considered.

SEC. 1112. REFORMATORIES—SHELTERING INSTITUTIONS.

It shall be unlawful for any person or corporation to build, construct, maintain, conduct or manage any reformatory, rescue or sheltering institution in any block in which two-thirds of the buildings on both sides of the street or streets on which the proposed reformatory, rescue or sheltering institution may front, are used chiefly for residence purposes, without the written consent of a majority of the property owners, according to frontage, on both sides of the streets bounding such block.

Such written consent shall be obtained and filed with the Commissioner of Buildings before a permit is issued for the construction or keeping of such building.

Provided, that in determining whether two-thirds of the buildings on both sides of the street are used exclusively for residence purposes, any building fronting upon another street and located upon a corner lot, shall not be considered.

SEC. 1113. PERMITS FOR MOVING BUILDINGS—REQUIREMENTS—WRITTEN CONSENTS MUST BE OBTAINED—AFFIDAVITS MADE.

Permits to move frame buildings shall be granted in ac-

cordance with the following: If such frame building has not been damaged to an extent greater than fifty per cent of its original cost, by fire, wear and tear, the action of the elements or otherwise. Any person desiring to remove a frame building shall first obtain the written consent to such removal from persons owning a majority of the frontage of the lots in the same block or square in which it is proposed to locate such removed building, and also the consent of the persons owning a majority of the frontage of the lots opposite and nearest to the proposed location and within one hundred and fifty feet of the same.

This section shall not apply to the case of any person removing a building upon his own premises and not going upon the premises of any other person, or upon any street, alley or other public place, in making such removal.

Provided, however, that no permit shall be issued for the removal of any wooden building from any point outside the fire limits to any point within the fire limits, when such building is of such a character that it would not be lawful to build it within the fire limits.

USE AND OBSTRUCTION OF STREETS FOR BUILDING PURPOSES.

SEC. 1114. SIDEWALK AND STREET—OCCUPATION OF—LIMITATIONS.

The extent of occupation of sidewalk and street to be covered by the terms of a permit for street obstruction or building, shall be as follows:

Such permit shall not authorize the occupation of any sidewalk or street or part thereof other than that immediately in front of the lot or lots upon which any building is in process of erection and in relation to which such permit is issued.

During the progress of building operations a sidewalk not less than four (4) feet in width shall be at all times kept open and unobstructed for the purpose of passage in front of such lot or lots. Such sidewalk shall, if there are excavations on either side of the same, be protected by substantial railings, which shall be built and maintained thereon so long as such excavations continue to exist. It is not intended hereby to prohibit the maintenance of a driveway for the delivery of material across such sidewalk from the curb line to the building site.

SEC. 1115. SIDEWALKS—DELIVERY OF MATERIAL—ELEVATED SIDEWALKS.

It shall be permitted for the purpose of delivering material to the basements of buildings in process of erection to erect elevated temporary sidewalks to a height of not exceeding four feet above the curb level of the street; and in case a sidewalk is so elevated, it shall be provided with good, substantial steps or easy inclines on both ends of the same and shall have railings on both sides thereof.

**SEC. 1116. SIDEWALKS—TEMPORARY ROOF OVER—
TIME MAINTAINED.**

If the building to be erected is more than four stories in height, and is set at or near the street line, there shall be built over the adjoining sidewalk a roof having a framework and covering composed of supports and stringers of three by twelve timbers, not more than four feet from centers, covered by two layers of two-inch plank.

Such roof shall be maintained as long as material is being used or handled on such street front and above the level of such sidewalk.

In all cases such temporary sidewalks and their railings and approaches, and the roofs over the same, shall be made, as regards ease of approach, strength and safety, to the satisfaction of the Commissioner of Buildings.

**SEC. 1117. STREET—STORAGE OF BUILDING MATERIALS
—LIMITATIONS.**

The occupation of the street for the storage of building materials, or for temporary sidewalks, shall never exceed, in front of any one building one-third of the width of the roadway of the same, and in no event shall any material be stored or placed within four feet of any railway track.

**SEC. 1118. SIDEWALKS AND STREET—EXCAVATED
MATERIAL AND RUBBISH ON—HOW CARED FOR.**

Earth, other than sand to be used in the construction of the building, taken from excavations, and rubbish taken from buildings shall not be stored either upon sidewalks or roadways of streets, and shall be removed therefrom from day to day as rapidly as produced. When dry rubbish, apt to produce dust, is being handled, it shall be kept wetted down so as to prevent its being blown about by the wind.

SEC. 1119. DERRICKS—LIMITATIONS.

For all buildings more than four stories in height, the use of derricks set upon the sidewalk or street is prohibited. In no case shall the guy lines be less than fifteen feet above the road-bed.

**SEC. 1120. FRONTAGE ADJACENT—HOW OCCUPIED FOR
BUILDING PURPOSES.**

If the written consent and a waiver of claims for damages against the city of the owners of properties abutting upon the site of any proposed building is first obtained and filed with the Commissioner of Public Works, the permission to occupy the roadway and the sidewalk may be extended beyond the limits of such building in front of the property for which the consent of the owner or lessee thereof has been secured, upon the same terms and conditions as those herein fixed for the occupation of sidewalk and street in front of the building site.

SEC. 1121. STREET—USE OF FOR BUILDING PURPOSES—WHEN TERMINATED.

The permission to occupy streets and sidewalks for the purposes of building is intended only for use in connection with the actual erection, repair, alteration or removal of buildings, and shall terminate with the completion of such operation. It shall be unlawful to occupy any sidewalk or street after the completion of the operation for which a permit has been issued by the Department of Buildings. It shall also be unlawful to occupy a sidewalk or street, under authority of such permit, for the storage of articles not intended for immediate use in connection with the operations for which such permit has been issued.

SEC. 1122. RED LIGHTS.

Red lanterns shall be displayed and maintained during the whole of every night at each end of every pile of material in any street or alley and at each end of every excavation.

SEC. 1123. STREET OBSTRUCTIONS—PERMITS—BONDS—FEES.

Permits for the obstruction of streets shall be issued by the Commissioner of Public Works and shall be paid for, in proportion to the street frontage occupied, at the rate of two dollars per month for each twenty-five feet of frontage so occupied.

No permit shall be issued until the applicant therefor shall have executed and filed with the Commissioner of Public Works a bond, with sureties to be approved by said Commissioner, and in an amount to be designated by him (in no case to be less than ten thousand dollars), conditioned to indemnify, save and keep harmless the city from any and all loss, cost, expense or liability of any kind whatsoever which it, the city, may suffer or be put to or which may be recovered from it, from or by reason of the issuance of such permit, or by reason of any act or thing done under or by virtue of the authority given in such permit.

BILLBOARDS AND SIGNS.**SEC. 1124. BILLBOARDS OR SIGNS ON BUILDINGS.**

Every billboard or sign of greater height than two feet and placed on any building above the level of the ground shall be made wholly of incombustible material and shall be securely anchored and fastened in a manner satisfactory to and approved by the Commissioner of Buildings.

No billboard or sign anchored to, fastened to, or situated above or upon the roof of any building shall be constructed so that the bottom of such billboard or sign shall be less than one foot or more than six feet above the surface of such roof, and no such billboard or sign shall exceed eight feet in height or be more than one hundred square feet in superficial area.

No billboard or sign such as is described in this section, whether anchored to or fastened to any building, or situated

or located upon the roof thereof, shall be constructed and put in place unless in accordance with plans and specifications which have been submitted to and approved by the Commissioner of Buildings.

Billboards or signs made of incombustible material attached to buildings shall not be of greater height than two feet, and shall be erected, constructed and maintained in a manner satisfactory to and approved by the Commissioner of Buildings.

SEC. 1125. SIZE—CONSTRUCTION—EXCEPTION.

All signs or billboards other than those painted on or erected upon any building shall be limited in their superficial area to one hundred square feet, and shall be constructed of sheet or galvanized iron or some equally incombustible material, and such signs or billboards shall not be located nearer than twenty-five feet back of the front line of the lot whereon the same are to be erected. All such signs or billboards shall be securely anchored or fastened so as to be safe and substantial.

SEC. 1126. HEIGHT AND DISTANCE FROM GROUND.

No such sign or billboard shall be constructed at a greater height than ten feet above the level of adjoining streets, and the base of the sign or billboard shall be in all cases at least three feet above the level of the adjoining streets. In case the grade of adjoining streets has not been established, no sign or billboard shall be constructed at a greater height than ten feet above the surface of the ground.

SEC. 1127. WOODEN BILLBOARDS OR SIGNS—CONSTRUCTION—SIZE.

Billboards or signs not exceeding twelve square feet in area may be built of wood or other combustible material, and such signs shall be exempted from the provisions of this ordinance.

SEC. 1128. NO BILLBOARD OR SIGN TO BE ERECTED WITHOUT PERMIT.

No billboard or sign, such as is described in this ordinance, shall be erected, constructed or maintained within the city unless a permit shall first have been secured by the person desiring to erect, construct or maintain such billboard or sign, from the Commissioner of Buildings. Application for such permit shall be made in writing and shall be accompanied by such plans and specifications of the proposed billboard or sign as are necessary to fully advise and acquaint the said Commissioner with the construction of such proposed billboard or sign. If the plans and specifications accompanying such application shall be in accordance with the provisions of this ordinance, said Commissioner shall thereupon issue a permit for the erection or construction of such billboard or sign, upon the payment by the applicant of a fee as hereinafter fixed.

SEC. 1129. ALTERATION AND REPAIR OF BILLBOARDS.

No material alteration or repair of any billboard or sign shall be made, except upon a written permit issued by the Commis-

sioner of Buildings authorizing such alteration or repair, and such permit shall be issued upon application in writing made to such Commissioner by the owner of such billboard or sign or by the person in charge, possession or control thereof, accompanied by a plan or written statement of the proposed alterations and repairs to be made, which, if satisfactory to and approved by the Commissioner of Buildings, shall authorize such applicant to receive a permit upon payment of a fee therefor as hereinafter fixed.

SEC. 1130. BILLBOARDS NOW EXISTING TO BE ALTERED
TO COMPLY WITH THE PROVISIONS OF THIS
ORDINANCE.

Every now existing billboard or sign, whether erected upon or above the roof of any building or attached or fastened to the wall or walls of any building, or standing upon or erected upon any lot or premises, which is not erected or maintained in compliance with the provisions of this ordinance, shall be forthwith removed or altered, changed or cut down so as to fully comply with such provision; and any billboard or sign now existing and not complying with the provisions of this ordinance, which shall not have been removed or torn down or so altered and changed within sixty days from and after the passage of this ordinance, as to be brought into conformity with the provisions of this ordinance by the owner thereof or by the person in charge, possession or control thereof, shall be torn down by the Commissioner of Buildings and the cost and expense of tearing down and removing such billboard or sign shall be charged to the owner of such billboard or sign or the person in charge, possession or control thereof, and shall be recovered from such person for the use of the city by any proceeding deemed appropriate therefor.

SEC. 1131. DUTY OF COMMISSIONER.

It shall be the duty of the Commissioner of Buildings to inspect all plans and specifications submitted in connection with the erection or construction or the alteration or repair of any billboard or sign, and to approve same if the method of construction and provisions made for fastening, securing, anchoring and maintaining such billboards or signs are such as will serve to protect the public and to render such billboards or signs safe and substantial. It is further made the duty of the Commissioner of Buildings to exercise a supervision over all billboards and signs erected or being maintained under the provisions of this article; and whenever it shall appear to said Commissioner that any such billboard or sign is in an unsafe condition or has become unstable or insecure or in such a condition as to be a menace to the safety of the public he shall thereupon issue or cause to be issued a notice in writing to the owner of such billboard or sign or the person in charge, possession or control thereof, if the whereabouts of such person is known, informing such person of the condition of such billboard or sign and

directing him to make such alterations or repairs thereto, or to do such acts or things as are necessary or advisable to place such billboard or sign in a safe, substantial and secure condition. If the person so notified shall refuse, fail or neglect to comply with and conform to the requirements of such notice, said Commissioner shall tear down or cause to be torn down and removed such billboard or sign, and shall charge the expense of such tearing down or removal to the person so notified. If the owner of such billboard or sign or the person in charge, possession or control thereof cannot be found, or his whereabouts is not easily ascertained, the Commissioner shall attach or cause to be attached to such billboard or sign a notice of the same import as that required to be sent to the owner, where such owner is known, and if such billboard or sign shall not have been placed in a secure, safe and substantial condition, in accordance with the requirements of such notice, within thirty days after such notice shall have been attached to such billboard or sign, it shall be the duty of the Commissioner of Buildings to thereupon order such billboard or sign torn down and removed.

SEC. 1132. FEES FOR PERMITS.

The fee to be charged for permits issued for the erection or construction of billboards or signs or for the alteration or repair thereof shall be two dollars for each billboard or sign.

SEC. 1133. PENALTY.

Any person or corporation owning, operating, maintaining, or in charge, possession or control of any billboard or sign within the city, who shall neglect or refuse to comply with the provisions of this ordinance, or who erects, constructs or maintains any billboard or sign that does not comply with the provisions of this ordinance, shall be fined not less than twenty-five dollars nor more than two hundred dollars for each offense and each day on which any such person shall permit or allow any billboard or sign owned, operated, maintained or controlled by him to be erected, constructed or maintained in violation of any of the provisions of this ordinance shall constitute a separate and distinct offense.

SEC. 1134. FENCES—HEIGHT OF.

No wooden fences shall be constructed of greater height than eight feet above the sidewalk grade, or eight feet above the surface of the ground, where no grade is established.

STORAGE OF OILS.

SEC. 1135. OILS—STORAGE OF—BUILDINGS FOR STORAGE OF OILS—WALLS—ROOF—FLOOR.

Buildings designed for the storage of crude petroleum, gasoline, naphtha, benzine, camphine, carbon oil, spirit gas, burning fluid, spirits of turpentine, or coal, rock or earth oil (excepting such refined oils as will stand a fire test of one hundred and fifty degrees Fahrenheit according to the method and direction of John Taglibue), shall be-constructed as follows:

The walls shall be of brick, stone, or concrete, and shall be not less than sixteen inches thick nor more than sixteen feet high. The lower floor of such buildings shall be at least three feet below the grade of the adjoining street and shall be made of earth, concrete, or brick. The roof of such buildings shall be made of tile, metal or other incombustible material, and the outside walls of any such building having a flat roof shall extend at least eighteen inches above the roof. The coping upon the roof of such buildings shall be made of incombustible material. Such buildings shall be detached from all other buildings and shall be properly ventilated. Where any such building shall be located less than twenty-five feet away from any other building or structure, the wall or walls of such building on the side or sides thereof, within such distance of twenty-five feet from any other building or structure shall have no window or other opening therein; provided, however, that if such building cannot be so constructed that no outside wall thereof shall be less than twenty-five feet away from any other building or structure, in such case, openings may be made in the wall of such building which is located farthest away from any other building or structure for the purpose of admitting light or providing means of access thereto and egress therefrom. If such opening be a window, the glass in such window shall be fire-resisting glass, and such window shall be provided with a steel shutter.

No such building shall be occupied for any purpose other than the storage of oils, and no person shall be permitted to use any such building as a sleeping apartment or dwelling place.

The interior cubic capacity of any such building shall exceed by at least twenty-five per cent the total capacity of the tanks or other receptacles placed in such building.

Such buildings and the equipment thereof, including the protection of the doors and windows, shall be constructed according to plans and specifications which have been submitted to and approved by the Commissioner of Buildings.

SEC. 1136. TANKS FOR STORAGE OF OILS.

Tanks for the storage of any one or more of the oils or fluids mentioned in the preceding section may be built outside of buildings either above or under the surface of the ground, provided the following specifications are complied with:

Such tanks shall be made of metal of sufficient gauge and tensile strength for the purpose for which they are to be used. All portions of such tanks are to be riveted together and shall be made liquid tight. Every such tank shall have a manhole and shall be equipped with adequate ventilating or safety devices.

All tanks other than those located in buildings constructed under the provisions of Section 1135 of this ordinance, whether placed above or below the surface of the ground, shall have no building or structure of any kind whatsoever over or above the same; provided, however, that if any such tank be located near

a railroad or manufactory or place where sparks are likely to fall and it is desired, in order to obviate such danger, to construct over such tank a shed or shelter. Such shed or shelter may be constructed upon a permit in writing therefor being issued by the Commissioner of Buildings; and such permit shall only be issued if it shall be shown that such shed or shelter is necessary, and upon the express agreement that such shed or shelter shall be used for no other purpose than affording protection or shelter and shall not be used for storage, manufacturing, residence, office, or any other purpose whatsoever.

SEC. 1137. WALLS AROUND TANKS.

Where any such storage tank or any portion thereof is erected or maintained upon or above the surface of the ground and is situated less than fifty feet from any other building or structure other than the buildings or structures upon the premises wherein such oils or fluids are to be used or stored, such tanks shall be separated from any such building or structure by an inclosing wall of brick, stone or concrete; and such wall shall be not less than five feet high and in no case of less height than two feet higher than the top of the tank which it is designed to separate from such building or structure. If such wall be ten feet high or less it shall be not less than twelve inches in thickness, and four inches in thickness shall be added for every additional ten feet or major fraction thereof height added to such wall. Such wall shall entirely surround or inclose such tank; provided, however, that an opening may be constructed in such inclosing wall to permit access to the tank. Such opening shall contain a liquid-tight door made of incombustible material, either sliding or opening inward and of sufficient strength to resist any pressure which may be brought to bear on such door by the bursting of the tank inclosed in such wall.

All such tanks and walls described in this section shall be constructed in accordance with plans and specifications which shall have been submitted to and approved by the Commissioner of Buildings.

SEC. 1138. STORAGE OF PETROLEUM, ETC.

It shall be unlawful for any person, or corporation, to keep or store crude petroleum, gasoline, naphtha, benzine, camphine, carbon oil, spirit gas, burning fluid, spirits of turpentine, or coal, rock or earth oil (excepting such refined oils as will stand a fire test of one hundred and fifty degrees Fahrenheit according to the method and direction of John Tagliabue), upon or in any structure or premises, in any quantity exceeding one barrel of fifty gallons, within the city, except in such a building or such tanks as are hereinbefore described in this ordinance; and where a quantity of any of such oils exceeding five gallons and not exceeding fifty gallons is kept in any premises other than such a building the receptacle or receptacles in which such oils is or are kept shall not be placed under any stairway or in any confined space, but shall be kept in such manner that

no vapor or gas therefrom can collect in such a quantity as to become dangerous; and no such receptacle or receptacles shall be stored, kept or handled at any time within fifteen feet of any gas, candle, oil or other like artificial light or near any lighted stove, gas grate of any open flame of any kind whatsoever; provided, however, that a quantity of such oils exceeding one barrel of fifty gallons and not exceeding five barrels of fifty gallons each may be kept or stored in a room or apartment, the floor of which shall be at least five feet below the grade of the street adjacent to the building or structure in which such room or apartment is located, and such room or apartment shall have an air capacity of not less than fifteen hundred cubic feet and shall be properly ventilated in such manner as to prevent a dangerous accumulation of vapor or gas from such oils; and such room or apartment shall not be used for any purpose other than the storage and handling of such oils. In any such room or apartment as is last above described turpentine may be kept in a quantity not exceeding five hundred gallons.

No gas, candle, oil, or other like artificial light or lighted stove, gas grate or other open flame of any kind whatsoever shall be allowed within fifteen feet of any receptacle or receptacles containing any of the oils or fluids mentioned in this ordinance while located, kept or stored in any such room or apartment. If more than fifteen (15) barrels of any of the oils hereinbefore described are kept in any such building as herein provided for, such building shall be located not less than 100 feet away from any other building or structure.

SEC. 1139. PETROLEUM, ETC., IN TRANSIT NOT TO BE KEPT NEAR BUILDINGS.

It shall be unlawful for any person or corporation engaged in the business of transporting or delivering any of the oils or fluids mentioned in this ordinance to permit such oils or fluids to remain in barrels, tanks, or other like receptacles, upon any railroad track, street, wharf, or dock for a longer time than is reasonably necessary to make provision for the storing or delivering of same; such time in no event, however, to exceed twenty-four hours.

SEC. 1140. OILS—SALE OF REGULATED.

It shall be unlawful for any person or corporation to sell, deliver, or receive any of the oils or fluids mentioned in this ordinance, by gas, candle, oil, or other like artificial light.

MISCELLANEOUS PROVISIONS.

SEC. 1141. ROOFS FOR SPECTATORIAL PURPOSES—PERMITS.

It shall be unlawful for any person, whether owner, lessee, manager or person in control or having charge of any building within the city to permit the use of the roof of any house or building, whether free of charge or through admission fee, to any person as a place of observation or for spectatorial pur-

poses, unless he has first obtained from the Commissioner of Buildings of the city a permit; provided, however, it shall not be unlawful for any person, whether owner, lessee, or the person in control or having charge of such house or building to permit the roof of any such house or building to be used as a place of observation or for spectatorial purposes for a number of persons not exceeding ten, and when no admission fee is charged.

SEC. 1142. INSPECTION AS TO SAFETY OF BUILDINGS.

Before issuing the permit, as provided for in the foregoing section, the Commissioner of Buildings shall make an investigation as to whether such building is safe and secure enough to permit the presence of an estimated number of persons upon the roof thereof, and the permit so issued shall state the number of persons to be permitted on such roof. The Commissioner of Buildings shall see to it that every such roof is surrounded and inclosed with a railing or balustrade of sufficient height and strength to afford adequate protection.

SEC. 1143. FEE FOR INSPECTION.

The person requiring such permit, as hereabove provided for, shall make application to the Commissioner of Buildings for such an investigation, and shall pay, as a fee for such investigation and such permit, the sum of five dollars.

SEC. 1144. PENALTY.

Any person, whether owner, lessee, manager or person having charge or control of any such house or building within the city, who shall permit, allow or tolerate the use of the roof of such house or building so controlled by him, by any person for a purpose within the meaning of Section 1141 of this ordinance, without first obtaining a permit as hereinbefore provided for, and without having the safety of such roof tested and investigated by the Commissioner of Buildings, as hereinbefore provided for, or who shall permit a larger number of persons than is provided for in his permit to congregate upon such roof, shall be fined not less than twenty-five dollars nor more than one hundred dollars for each offense.

SEC. 1145. WINDOWS, CLEANING OF—SAFETY DEVICES.

The owner or agent of every building hereafter erected in the city shall equip each and every window in any such building, above the second story thereof, with a suitable device or devices which will permit the cleaning of the exterior of each and every window in such building, above the second story, without danger to the person cleaning such windows; such devices shall be of such pattern and construction as will reasonably answer the purposes for which they are intended. Provided, however, that if windows are of such size that they may be easily cleaned from the inside, they need not be equipped with such devices.

SEC. 1146. PENALTY.

Any owner or agent of any building described in the preceding section who shall fail, neglect or refuse to comply with

any of the provisions of said section, shall be fined not less than ten dollars nor more than fifty dollars for each offense, and each and every day which shall be allowed to elapse before any such building shall be supplied and equipped in accordance with the provisions of said section shall constitute on the part of the owner or agent of any such building a separate and distinct offense.

SEC. 1147. SCAFFOLDS—PROTECTION DURING BUILDING OPERATIONS—TEMPORARY FLOORS.

All scaffolds erected in this city for use in the erection, repair, alteration or removal of buildings, shall be well and safely supported, and of sufficient width, and properly secured, so as to insure the safety of persons working thereon or passing under, or by the same, and to prevent the falling thereof, or of any material that may be used, placed or deposited thereon.

It shall be the duty of every owner, person or corporation who shall have the supervision or control of the construction of or remodeling of any building having more than three (3) framed floors, whether some or all of such floors are above or below the established street grade, to provide and lay upon the upper side of the joists or girders, or both, of the first floor below the riveters and structural steel setters, a plank floor, which shall be laid to form a good and substantial temporary floor for the protection of employes and all persons engaged above or below or on such temporary floor in such building.

Provided, however, that where the permanent floor is in place on the floor herein required to be planked, a temporary protective floor shall not be required.

If the floor or permanent floor of the second floor, or of any other floor above the second, or roof, is being placed previous to the permanent floor of the floor immediately below the floor which is being arched or planked, a good and substantial temporary floor shall be laid on the joists and girders of the next lower floor. For the purposes of this section the lowest framed floor in a building shall be considered the first floor.

In buildings more than three (3) stories high, where persons are working on a scaffold or scaffolds on the outside of such building, such persons shall be protected by well-secured planking, set over the heads of such persons for the full width of the scaffolding on which they are working if another story or other stories are being raised above such persons during the time in which they are working on such outside scaffold or scaffolding.

It shall be the duty of all owners, contractors, builders or persons having the control or supervision of all buildings in the course of erection which shall be more than thirty (30) feet high, to see that all stairways, elevator openings, flues and all other openings in the floors shall be covered or properly protected.

SEC. 1148. PENALTY.

Any person violating any of the provisions of the foregoing

section shall be fined not less than one hundred dollars nor more than two hundred dollars for each offense, and any permit granted for the construction of such building by the authorities of the city may be revoked in the discretion of the Commissioner of Building.

SEC. 1149. GAS OR ELECTRIC SHUT-OFF DEVICE—OUTSIDE OF BUILDING.

Every building within the city in which gas or electricity is used for illuminating, heating or other purposes shall be equipped with a device or devices which will enable firemen to shut off the supply of gas or current of electricity to any such building from the outside thereof; such device or devices to be placed at such a point or at such points on the outside of any such building as may be designated by the Fire Marshal of the city and to be of such design and construction as to enable such device or devices to perform with reasonable certainty and safety the work required to be done thereby.

Any device or devices installed for the purpose of carrying out the provisions of this section shall first be approved by the Fire Marshal, and after the installation thereof the control of any such device or devices so installed in or upon any building under the provisions of this section shall be under the supervision of the Fire Department of the city.

Provided, however, that buildings used exclusively for residence purposes and outbuildings, sheds or barns attached or appurtenant to buildings used exclusively for residence purposes shall be exempted from the provisions of this section.

SEC. 1150. PENALTY.

Any owner, agent or person having control or charge of any building coming within the provisions of the foregoing section, who shall neglect, fail or refuse to equip any such building with a device or devices such as are described in the foregoing section shall be fined not less than fifty dollars nor more than two hundred dollars for each offense, and each day which shall elapse before the equipment of any such building with a device or devices as herein required shall be deemed a separate and distinct offense, and any person who shall disturb, meddle or tamper with any device or devices installed under the provisions of the preceding section upon any building or buildings, without authority from the Fire Marshal, shall be fined not less than ten dollars nor more than one hundred dollars for each offense.

SEC. 1151. LICENSE—CONTRACTORS.

Every person or corporation engaged within the city in the construction or repairing of the whole or any part of buildings and appurtenances shall be and he or it is hereby required to obtain a license from the city which shall permit him or it to engage thereafter in the business of contracting for the erection of buildings and appurtenances or parts thereof.

SEC. 1152. APPLICATION—CONDITIONS.

Every application for such license shall be made to the Commissioner of Buildings and shall set forth the name and residence or place of business of the applicant and the nature of the work which he or it desires to engage in for a period of one year thereafter, and shall be accompanied by a fee of two dollars.

SEC. 1153. LICENSE TO BE ISSUED.

Said Commissioner shall thereupon issue a license in due form, permitting the applicant to engage in the business of contracting for the erection of buildings and appurtenances, or parts thereof, in the city for one year from the date of such license, which date shall be the first day of May in the year in which such license is applied for, and no license shall be granted for any period less than a year, and all licenses shall run from the first day of May in each year until the thirtieth day of April in the succeeding year.

SEC. 1154. PENALTY.

Any person or corporation who shall engage in the business of building in the city under contracts for the whole or any part of buildings and appurtenances, without first having obtained a license therefor as aforesaid, shall be fined not less than twenty-five nor more than one hundred dollars for each offense.

SEC. 1155. WALLS—STRUCTURES—BUILDINGS ALTERED TO CONFORM TO ORDINANCE.

No wall, structure, building or part thereof shall hereafter be built, constructed, altered or repaired within the city except in conformity with the provisions of this ordinance. No building already erected or hereafter to be built within the city shall be raised, altered or built upon in such a manner that if such building were wholly rebuilt or constructed after the passage of this ordinance it would be in violation of any of its provisions.

SEC. 1156. BUILDINGS—EXPENSE OF ALTERING RECOVERABLE FROM OWNER BY CITY.

Whenever, in the opinion of the Commissioner of Buildings, it shall be necessary to tear down, alter, repair or rebuild any building or portion of any building which is dangerous, defective or unsafe, or which is reported to the said Commissioner by the Commissioner of Health to be unfit for human occupancy, or which has been built in violation of any of the provisions of this ordinance or of any ordinance regulating the construction of buildings hereafter passed, said Commissioner of Buildings shall cause such building or such portion thereof to be torn down, altered, repaired or rebuilt or such work to be done thereon as he may deem necessary to render such building, or such portion thereof, safe or fit for human occupancy, and the expense thereof shall be recoverable from the owner or owners of such building by any proceeding that may be deemed appropriate.

SEC. 1157. PENALTY—FINES FOR VIOLATION OF ORDINANCE.

Any person, or corporation, who violates, neglects or refuses to comply with, or who resists or opposes the enforcement of any of the provisions of this ordinance, shall be fined not less than twenty-five nor more than two hundred dollars for each offense, and every such person or corporation shall be deemed guilty of a separate offense for every day on which such violation, neglect or refusal shall continue; and any builder or contractor who shall construct any building in violation of any of the provisions of this ordinance, and any architect designing or having charge of such building who shall permit it to be constructed, shall be liable to the penalties provided and imposed by this section.

SEC. 1160. REPEAL OF PRIOR ORDINANCES—EXCEPTION.

An ordinance passed March 28, 1898, known as the "Building Ordinance," and all amendments thereto, is hereby repealed. Such repeal shall not affect any suit or action or proceeding had or commenced in any court before the date when this ordinance takes effect, nor any offense committed, nor any forfeiture, nor any penalty incurred, nor any suit or prosecution pending for the recovery of any fine or penalty incurred under said ordinance passed March 28, 1898, and its amendments so repealed hereby.

SEC. 1161. STYLE OF ORDINANCE—IN EFFECT.

This ordinance shall be known as "The Chicago Building Ordinance of 1905," and shall take effect and be in force from and after its passage.

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Mechanics' Lien Law.

AN ACT TO REVISE THE LAW IN RELATION TO MECHANICS' LIENS

Sec. 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That any person who shall by any contract with the owner of a lot or tract of land, or with one whom such owner has authorized or knowingly permitted to improve the same, furnish or specially manufacture and prepare materials, fixtures, apparatus or machinery for the purpose of, or in building, altering, repairing or ornamenting any house or other building, walk, driveway, fence or improvement, or appurtenance thereto on such lot, or connected therewith, and upon, over or under a sidewalk, street or alley adjoining; or fill or excavate such lot; or raise or lower any house thereon, or remove any house thereto, or perform services as an architect for any such purpose, or furnish or perform labor or services as superintendent, timekeeper, or otherwise in building, altering, repairing or ornamenting the same; or furnish materials, fixtures, apparatus, machinery, labor or services on the order of his agent, architect or superintendent having charge of the improvement in building, altering, repairing or ornamenting the same, shall be known under this act as a contractor, and shall have a lien upon the whole of such tract of land or lot and upon the adjoining or adjacent lots of such owner constituting the same premises and occupied or used in connection with such lot as a place of residence or business; and, in case the contract be entire and relate to two or more buildings on adjoining or adjacent lots of the same owner, upon all of said lots and the improvements thereon, for the amount due to him for such material, fixtures, apparatus, machinery, services or labor, and interest from the date the same is due.

This lien shall extend to an estate in fee, for life, for years, or any other estate, or any right of redemption or other interest which such owner may have in the lot or land at the time of making such contract or may subsequently acquire therein; and, as to the improvements for which the lien is claimed, shall be superior to any right of dower of husband or wife in such improvements.

This lien shall attach as of the date of the contract, but as against or to the prejudice of any other creditor, incumbrancer or purchaser, without actual or constructive notice of such contract, the lien shall not attach as of the date of the contract, unless within thirty days hereafter the contractor shall file in the office of the clerk of the Circuit Court of the county in which such improvement is to be made a statement, giving his name and the name of the owner of the property, what his contract is for, the amount to be paid, a description of the property, and

the date when the delivery of material or work is to be completed. If such statement is not filed within the thirty days named, the lien shall attach from the date the same is filed; provided, that commencement of work or delivery of material at the premises by any contractor shall serve the same purpose as the filing of such statement or commencement of work by all parties who may subsequently furnish or especially prepare material for, or perform services or labor in the construction of the improvement.

The lien for materials bought, specially prepared for, or delivered at, but not used in the improvement, shall be second to the lien of contractors whose material was used therein; and as against purchasers or incumbrancers of such real estate, who become such without actual or constructive notice of the contract for materials, the lien shall prevail, only to the extent of the value of the materials used.

If the materials, fixtures, apparatus, machinery, labor or services were furnished under a contract with any of the persons named other than the owner, or one by him authorized to make such contract, the owner may prevent such lien for what is not then furnished or performed by giving written notice to the person furnishing or performing the same that he will not be responsible therefor.

Sec. 2. Any person furnishing services, labor or material for the erection of a new building, or structure or improvement, but by mistake upon land owned by another than the party contracting as owner, shall have a lien for such services, labor or material upon such building, or structure, or improvement; and the court, in the enforcement of such lien, shall order and direct such building, structure or improvement to be separately sold under its decree, and the purchaser may remove the same within such reasonable time as the court may fix.

Sec. 3. If any such services or labor are performed upon, or materials are furnished for, lands belonging to any married woman, with her knowledge and consent, in pursuance of a contract with the husband of such married woman, the person furnishing such labor or materials shall have a lien upon such property, the same as if such contract had been made with such married woman; and in case the title to such lands upon which improvements are made is held by husband and wife jointly or by entireties, the lien given by this act shall attach to such lands or improvements, if the improvements be made in pursuance of a contract with both of them, or in pursuance of a contract with one of them, by and with the knowledge and consent of the other; and in all such cases, no claim of homestead right set up by a husband or wife shall defeat the lien given by this act.

Sec. 4. When the owner of the land shall have failed to perform his part of the contract by failing to pay to the contractor moneys justly due him under the contract at the time when the same should have been paid, or has failed to perform his part of the contract in any other manner, the contractor shall not be held liable for any delay on his part during the period of, or caused by, such breach of contract on the part of the owner; and

if, after ten days' notice in writing by the contractor, the owner shall fail to comply with his contract, the contractor may discontinue the work, and in such case he shall be entitled to a reasonable compensation for as much thereof as has been performed in proportion to the price stipulated for the whole, and such damages as the contractor may have sustained by reason of the owner's default, and the court shall adjust his claim and allow him a lien accordingly. In such case the party selling material which has not been used shall have the right to take possession of and remove the same if he so elects.

Sec. 5. Within ten days after the contract is made, and before commencing work thereunder, it shall be the duty of the contractor to give the owner, and also the duty of the owner to require of him, a statement in writing, under oath or verified by affidavit, of the names and addresses of all parties having sub-contracts for specific portions of the work, or for material, and of the amount to become due each, and when; or if any such sub-contracts are not then let, the names and addresses of those who have made bids or proposals for the same or for material, and the respective amounts of such bids or proposals, and, within ten days after the same are accepted, the amount thereof; and if any contractor shall fail to so notify the owner within five days after written notice to do so, such owner may cancel the contract with such contractor by written notice of such cancellation, and the lien of such contractor shall be subject to the liens of all other creditors. But this section shall not apply to contractors who have given, or within the ten days first named shall give, to the owner a good and sufficient bond for the completion of such building or improvement free and clear of all mechanics' liens; and such bond is made for the use and benefit of those who may be entitled to such liens; nor where such persons shall in advance waive their rights to liens and bind themselves to perform their respective sub-contracts, services or labor; nor to contractors whose sub-contractors and material men agree to take solely for payment; nor to merchants and dealers in material only.

Sec. 6. If the work is done or materials are furnished under a verbal contract, no lien shall be had by virtue of this act, unless the work shall be done or materials furnished within one year from the date of the contract, and final payment therefor is to be made within such time.

If the contract be written, no lien shall be had by virtue of this act, if the time stipulated for the completion of the work or furnishing materials is beyond three years from the date of the contract, or the time of payment beyond one year from the time stipulated for the completion thereof. Nor shall a lien be had under a written contract where the time of completion or final payment is more than one year from the date of the contract, unless either the work be continued up to the date for such payment, or within thirty days after completion the contractor shall file in the office of the clerk of the Circuit Court of the county where the improvement is made a statement under oath, or verified by affidavit, giving the name of the contractor and of the per-

son contracting with him, a description of the property improved, the balance due, and the date for the final payment, which statement shall have the effect and stand in lieu of the claim for lien hereinafter provided for.

Sec. 7. No contractor shall be allowed to enforce such lien as against or to the prejudice of any other creditor or incumbrancer or purchaser, unless, within four months after the last payment shall have become due and payable according to the terms of the original contract, he shall either bring suit to enforce his lien therefor, or shall file with the clerk of the Circuit Court of the county in which the building, erection or other improvement to be charged with the lien is situated, against the owner a claim for lien, verified by the affidavit of himself, agent or employe, which shall consist of a brief statement of the contract, the date the same was made, and the date fixed therein, or the time implied, for completion and for final payment, and the date that the same was completed, if completed, the balance due after allowing all credits, and a sufficiently correct description of the lot, lots or tract of land to pass the title thereof by deed of conveyance. An itemized account shall not be necessary, except for extras, where the contract is for all of the work or materials, or all of a specific part thereof at a fixed and agreed price. Such claim for lien may be filed at any time after the contract is made, and, as to the owner, may be amended at any time before trial or on the hearing of a suit to enforce the lien, subject to a continuance, on account of such amendment, in the discretion of the court. No such lien shall be defeated to the proper amount thereof because of an error or overcharge on the part of any person claiming a lien therefor under this act, unless it shall be shown that such error or overcharge was made with intent to defraud. Nor shall any such lien for material be defeated because of lack of proof that the material, after the delivery thereof, actually entered into the construction of such building or improvement, provided it is shown that such material was in fact in good faith delivered at the place where said building or improvement was being constructed for the purpose of being used in such construction.

And, provided further, that in the case of the construction of a number of buildings under contract between the same parties, it shall be sufficient, in order to establish such lien for material, if it be shown that such material was in good faith delivered at any one of the said buildings for the purpose of being used in the construction of any one or all of such buildings; and such lien for such material shall attach to all of said buildings, together with the land upon which the same are being constructed, the same as in a single building or improvement.

Sec. 8. All liens or claims for liens which may arise or accrue under the terms of this act shall be assignable, and proceedings to enforce such liens may be maintained by and in the name of the assignee, who shall have as full and ample power to enforce the same as if such proceedings were taken under the provisions of this act by and in the name of the lien claimant.

Sec. 9. If payment shall not be made to the contractor having a lien by virtue of this act of the amount due when the same becomes due, then such contractor may bring suit to enforce his lien by bill or petition in any court of competent chancery jurisdiction in the county where the labor was done or the materials delivered.

Any two or more persons having liens on the same property may join in bringing such suit, setting forth their respective rights in their bill or petition. If a suit be then pending to foreclose a mortgage or trust deed, or to enforce a mechanic's lien on the premises, or any such suit will afterward be instituted, all lien claimants not made parties thereto, and having actual notice of such proceeding, and all defendant lien claimants shall file their suits to enforce their liens by answer to the bill or petition in the nature of an intervening petition; and the same shall be taken as cross-bills against all the parties to such suit; and the said bill or petition shall not thereafter be dismissed as to any such lien claimant, or as to the owner or owners of the premises, without the consent of such lien claimant. The complainant or petitioner and all defendants to such bill or petition may contest each other's rights without any formal issue of record made up between them other than that upon the original bill or petition, as well with respect to the amount due as to the right to the benefit of the lien claimed; provided, that if by such contest by co-defendants any lien claimants be taken by surprise, the court may, in its discretion, as to such claim grant a continuance.

The court may render judgment against any party summoned and failing to appear, as in other cases of default. Such suit should be commenced or answer filed within two years after final payment is due, according to the terms of the original contract, or the lien shall be void as to all parties.

Sec. 10. Suits may be instituted under the provisions of this act in favor of administrators or executors, and may be maintained against the representatives in interest of those against whom the cause of action accrued; and in suits instituted under the provisions of this act, the representatives of any party who may die pending the suit shall be made parties.

Sec. 11. The bill or petition shall contain a brief statement of the contract or contracts on which it is founded; the dates when made, to be completed for final payment, and when completed; if not completed, why; what was done, and between what dates; it shall also set forth the amount due and unpaid, a description of the premises which are subject to the lien, and such other facts as may be necessary to a full understanding of the rights of the parties. Where plans or specifications are by reference made a part of the contract, it shall not be necessary to set the same out in the pleadings or as exhibits, but the same may be produced on the trial of the suit.

The complainant or petitioner shall make all parties interested, of whose interest he is notified or knows, parties defendant, except his own sub-contractors, and promptly place a summons for such parties in the hands of the proper officer for service,

which summons shall issue and service thereof be had as in suits in chancery; and when any defendant resides or has gone out of the state, or on due inquiry cannot be found, or is concealed within this state, so that process cannot be served on him, the complainant or petitioner shall cause notice to be given to him in like manner and upon the same conditions as are provided in suits in chancery, and his failure to so act with regard to summons or notice shall be ground for judgment or decree against him as upon the merits. The same rule shall prevail with cross-petitioners with regard to any persons of whose interests they have knowledge, and who are not already parties to the suit or action, and the court may, in its discretion, enter like judgment or decree against any complainant before it not diligently prosecuting his claim to final judgment. Parties in interest, within the meaning of this act, shall include persons entitled to liens thereunder whose claims are not, as well as are, due at the time of the commencement of suit; and such claims shall be allowed, subject to a reduction of interest, from the date of judgment to the time the claim is due; also all persons who may have any legal or equitable claim to the whole or any part of the premises upon which a lien may be attempted to be enforced under the provisions thereof, or who are interested in the subject matter of the suit. Any such persons may, on application to the court wherein the suit is pending, be made or become parties at any time before final judgment. No action or suit under the provisions of this act shall be voluntarily dismissed by the party bringing the same without due notice to all parties before the court and leave of court upon good cause shown and upon terms named by the court.

Sec. 12. For the purpose of bringing all parties in interest before the court, the court shall permit amendments to any part of the pleadings, and may issue process, making all orders requiring parties to appear, and requiring notice to be given, that are or may be authorized in proceedings in chancery; and shall have the same power and jurisdiction of the parties and subject; and the rules of practice and proceedings in such cases shall be the same as in other cases in chancery, except as is otherwise provided in this act. The court shall have power to appoint receivers for property on which liens are sought to be enforced in the same manner, for the same causes and for the same purposes as in cases of foreclosure of mortgages, as well as to complete any incompleated building, where the same is deemed to be to the best interest of all the parties interested.

Sec. 13. Defendants shall answer the bill or petition under oath, unless the oath is waived by the complainant or petitioner, and the plaintiff shall except or reply to the answer as though the proceeding was in chancery. The answer shall be regarded as the plea of the defendant, and by replication thereto an issue, or issues, shall be formed, which shall be tried by the court, or by a jury under the direction of the court, as the court may direct or the parties agree. The owner shall be entitled to make any defense by way of set-off, recoupment or counter-claim that he

could in any action at law, and shall be entitled to the same right of recovery on proof of such in excess of the claim of the contractor, or any other party to the suit, but for matters not growing out of the contract such recovery shall be without prejudice to the rights of the sub-contractors thereunder for payment out of the contract price or fund.

Sec. 14. In no case shall the want of preparation for trial of one claim delay the trial in respect to others, but trial shall be had upon issues between such parties as are prepared, without reference to issues between other parties; and when one creditor shall have obtained a decree or judgment for the amount due, the court may order a sale of the premises on which the lien operates, or a part thereof, so as to satisfy the decree or judgment; provided, that the court may, for good cause shown, delay making any order for sale or distribution until the rights of all parties in interest are ascertained and settled by the court.

Sec. 15. Upon all questions arising between different contractors having liens under this act no preference shall be given to him whose contract was first made; but the claim of any such person for mechanical or other labor by him personally performed to the extent of two weeks' wages shall be a preferred lien to an amount equal to 10 per cent of the proportionate value or the entire work completed up to the date of the last day's work of such laborer.

Sec. 16. No incumbrance upon land, created before or after the making of the contract under the provisions of this act, shall operate upon the building erected, or materials, fixtures, apparatus or machinery furnished for erecting or improving the same, until the lien in favor of the person doing the work or furnishing the materials, fixtures, apparatus or machinery shall have been satisfied; and upon questions arising between different incumbrances and lien creditors, the previous incumbrance shall be preferred to the extent of the value of the land at the time of making the contract, the lien creditors to the extent of the market value of the same is enhanced by reason of the improvements; and the court shall ascertain, by jury or otherwise, as the case may require, what proportion of the proceeds of the sale shall be paid to the several parties in interest.

Where, after a trust deed or mortgage has been recorded, contracts shall be made for the improvement of the property, and the owner shall pay for labor or material in such improvement, the enhanced value thereby given shall be treated as a fund in which the mortgage and lien holder shall participate *pro rata*.

Any incumbrance, whether by mortgage, judgment or otherwise, charged and shown to be fraudulent in respect to creditors, may be set aside by the court, and the premises made subject to the claim of the complainant or petitioner, freed and discharged from such fraudulent incumbrance.

Sec. 17. Where the contract for material or labor is entire and relates to houses on different lots, the court shall apportion the amount of the lien and cost on each house and lot according

to the value thereof, and direct the sale of each house and lot separately to satisfy the amount of the lien and costs apportioned against it; and if the same shall not sell for sufficient to pay such amount, shall order the deficiency paid out of the surplus proceeds of the sale of any other of said houses and lots covered by such lien.

Sec. 18. The costs of proceedings, as between all parties to the suit, shall be taxed equitably against the losing parties, and where taxed against more than one party, shall be so taxed against all in favor of the proper party, but equitably as between themselves; and the costs, as between creditors aforesaid in contests relative to each other's claims, shall be subject to the order of the court, and the same rule shall prevail in respect to costs growing out of the proceedings against and between incumbrances. In all cases where liens are enforced, a fee of five dollars shall be taxed for filing the claim for lien, and the court shall in its discretion order a reasonable attorney's fee, not exceeding ten per cent, taxed as a part of the costs in favor of the claimant, and where the same are defeated, in favor of the owner.

Sec. 19. Whatever right or estate such owner had in the land at the time of making the contract may be sold in the same manner as other sales of real estate are made under decrees in chancery. If any part of the premises can be separated from the residue, and sold without damage to the whole, and if the value thereof is sufficient to satisfy all the claims proved in the cause, the court may order a sale of that part.

Sec. 20. The court shall ascertain the amount due each lien creditor and shall direct the application of the proceeds of sale to be made to each in proportion to their several amounts, according to the provisions of this act; except that in the payment of mechanic's lien claims the claims of laborers, who are contractors under this act, to the extent of two weeks' wages, shall be first paid; after that the balance due such laborers and other mechanic's lien creditors *pro rata*.

If, upon making the sale under this act of any or all premises, the proceeds of such sale shall not be sufficient to pay the claims of all parties, according to their rights, the decree shall be credited by the amount of said sale, and execution may issue in favor of any creditor whose claim is not satisfied for the balance due, as upon a deficiency decree in the foreclosure of a mortgage in chancery; and such deficiency decree shall be a lien upon all real estate and other property of the party against whom it is entered in the same extent and under the same limitations as a judgment at law; and in case of excess of sales over the amount of the decree, such excess shall be paid to the owner of the land, or to the person who may be entitled to the same, under the direction of the court.

Sec. 21. Upon all sales under this act, the right of redemption shall exist in favor of the same persons, and may be made in the same manner as is or may be provided for redemption of real estate from sales under judgments and executions at law.

Sec. 22. Every mechanic, workman or other person who shall in pursuance of the purposes of the original contract furnish to or specially manufacture and prepare any materials, apparatus, machinery or fixtures, or furnish or perform services or labor for the contractor shall be known under this act as a sub-contractor, and shall have a lien for the value thereof, with interest on such amount from the date the same is due, in the same manner, from the same time, on the same property, and to the same extent as is herein provided for the contractor, and also as against the creditors of the contractor, on the materials, fixtures, apparatus or machinery furnished, and on the money or other consideration due or to become due from the owner under the original contract. But the aggregate of all the liens hereby authorized shall not exceed the price stipulated in the original contract between such owner and the contractor for such improvements except as hereinafter provided. In no case, except as hereinafter provided, shall the owner be compelled to pay a greater sum for or on account of such house, building or other improvements than the price or sum stipulated in said original contract or agreement, unless payment be made to the contractor, or to his order, in violation of the rights and interest of the persons intended to be benefited by this act. *Provided*, if it shall appear to the court that the owner and contractor fraudulently, and for the purpose of defrauding sub-contractors, fixed an unreasonably low price in their original contract for the erection or repairing of such building, then the court shall ascertain how much of a difference exists between a fair price for labor and material used in said building, or other improvements, and the sum named in said original contract, and said difference shall be considered a part of the contract and be subject to a lien; but in no case shall the contractor's time or profits be secured by this lien, only so far as the sum named in the original contract or agreement.

But where the contractor's statement, made as provided in section five (5), shows the amount to be paid to the sub-contractor or party furnishing material; or the sub-contractor's statement, made pursuant to section twenty-three (23), shows the amount to become due for material, or notice is given to the owner, as provided in sections twenty-five (25) and twenty-six (26), and thereafter such sub-contract shall be performed, or material to the value of the amount named in such statements or notice shall be prepared for use and delivery, or delivered, without written protest on the part of the owner previous to such performance or delivery, or preparation for delivery, then, and in any of such cases, such sub-contractor or party furnishing or preparing material, regardless of the price named in the original contract, shall have a lien therefor to the extent of the amount named in such statements or notice. Also, in such cases, and in case of like default by the contractor, the sub-contractor or party furnishing or preparing material shall have and may enforce his lien to the same extent and in the same manner that the contractor may under conditions that arise as provided for in section 4 of this

act, and shall have and may exercise the same rights as are therein provided for the contractor.

And when the contractor shall have failed to perform and abandoned his part of the contract, the sub-contractors and material men, or any of them, shall have the right to complete the same, and shall be entitled to a reasonable compensation therefor, in proportion to the price stipulated for the whole, and the court shall adjust their claims accordingly.

Sec. 23. Whenever, after a contract has been made, the contractor shall associate one or more persons as partners, or joint contractors, in carrying out the same, or any part thereof, the lien for materials or labor furnished by a sub-contractor to such contractor and his partners or associates, as originally agreed upon, shall continue the same as if the sub-contract had been made with all of said parties.

When the contractor shall sub-let his contract, or a specific portion thereof, to a sub-contractor, the party furnishing material to or performing labor for such sub-contractor shall have a lien therefor to the extent of the sum to be paid to the sub-contractor who purchases material from or employs him, and may enforce his lien in the same manner as is herein provided for the enforcement of liens by sub-contractors.

Any sub-contractor shall, as often as requested in writing by the owner or contractor, or the agent of either, make out and give to such owner, contractor or agent, a statement of the persons furnishing material, giving their names and how much, if anything, is due or to become due to each of them, and when the same became or will become due, which statement shall be made under oath if required. If any sub-contractor shall fail to furnish such statement within five (5) days after such demand, he shall forfeit to such owner or contractor the sum of fifty dollars (\$50) for every offense, which may be recovered in an action of debt before a justice of the peace, and shall have no right of action against either owner or contractor until he shall furnish such statement, and the lien of such sub-contractor shall be subject to the liens of all other creditors.

Sec. 24. Any person who shall furnish material, apparatus, fixtures, machinery or labor to any contractor for a public improvement in this state shall have a lien on the money, bonds or warrants due or to become due such contractor for such improvement: *Provided*, such person shall, before any payment or delivery thereof is made to such contractor, notify the officials of the state, county, township, city or municipality, whose duty it is to pay such contractor, of his claim by a written notice and the full particulars thereof. It shall be the duty of such official so notified to withhold a sufficient amount to pay such claim until it is admitted, or by law established, and thereupon to pay the amount thereof to such person, and such payment shall be a credit on the contract price to be paid to such contractor.

Any officer violating the duty hereby imposed upon him shall be liable on his official bond to the person serving such notice for the damages resulting from such violation, which may be re-

covered in an action at law in any court of competent jurisdiction. There shall be no preference between the persons serving such notice, but all shall be paid *pro rata* in proportion to the amount due under their respective contracts.

Sec. 25. Such sub-contractor, or party furnishing materials, may at any time after making his contract with the contractor, and shall within sixty (60) days after the completion thereof, or, if extra work is done or extra material is delivered thereafter, within sixty days after the date of completion of such extra work or final delivery of such extra material, cause a written notice of his claim, or of such sub-contract, with a copy thereof, if the same be in writing, and the amount due or to become due thereunder, and when it became or will become due, to be personally served on the owner or his agent, or the architect or superintendent having charge of the building or improvement; and his claim shall be a lien as against the owner from the date of the service of such notice, so far as the owner may be indebted to the contractor at that time, or may become indebted to him as such contractor thereafter. Where such written contract by reference makes the plans and specifications of the original contract part thereof it shall not be necessary to serve a copy of such plans and specifications with the notice. It shall be the duty of the agent, architect or superintendent so notified to at once transmit such notice to the owner; and for his failure so to do he shall be personally liable, both to the owner and party serving such notice, for all damages in consequence of such failure, which may be recovered in an action at law in any court of competent jurisdiction.

Provided, such notice shall not be necessary where the sworn statement of the contractor or sub-contractor provided for herein shall serve to give the owner true notice of the amount due and to whom due; but where such statement is incorrect as to the amount, the sub-contractor or material man named shall be protected to the extent of the amount named therein as due or to become due to him.

The form of such notice may be as follows:

To (name of owners): You are hereby notified that I have been employed by (name of contractor) to (state here what was the contract, or what was done, or to be done, or what the claim is for), under his contract with you, on your property, at (here give substantial description of the property), and that there was due me on the day of, or is to become due on the day of (as the case may be) therefor the sum of dollars.

Dated at this day of
A. D. 190..

(Signature)

Sec. 26. In all cases where the owner, agent, architect or superintendent cannot be found in the county in which said improvement is made, or shall not reside therein, the sub-contractor or person furnishing materials, fixtures, apparatus, machinery, labor or services shall give notice by filing in the office

of the clerk of the Circuit Court against the person making the contract and the owner a claim for lien, verified by the affidavit of himself, agent or employe, which shall consist of a brief statement of his contract or demand, what he is to do, within what time, when and what amount he is to be paid therefor; or, if done, what done, between what dates, and the balance due after allowing all credits, and the character thereof, and when the same became due, and a substantially correct description of the lot, lots, or tract of land. An itemized account shall not be necessary, except for extras, where the sub-contract is for all of a specific part of the work, or for all of the materials of a certain class, where the amount to be paid therefor was a fixed and agreed sum.

Sec. 27. The claim of any person for mechanical or other labor, under section twenty-two (22) of this act to the extent of two weeks' wages, shall be a preferred lien for twenty days from the last day's work performed by such person, to an amount equal to ten per cent. of the proportionate value of the contract completed up to the date of said last day's work: *Provided*, such notice is served within twenty days from the day when such last day's work was performed by such person; and the owner or his agent may retain for said twenty days such ten per cent. out of any money due or to become due to the contractor: *And provided further*, this ten per cent. shall not be construed as in addition to any per cent. that may be held back in pursuance of the terms of the contract between the owner and contractor.

Sec. 28. When the owner or his agent is notified, as provided in this act, he shall retain from any money due or to become due the contractor an amount sufficient to pay all demands that are or will become due such sub-contractors, tradesman, material man, mechanic or workman of whose claim he is notified, and shall pay over the same to the persons entitled thereto as the same becomes due.

Such payments shall be as follows:

First. All claims for mechanical or other labor to the extent of two weeks' wages, of which notice has been served as provided in the preceding section, shall be paid in full. If the money due and to become due the contractor, including the ten per cent. in said section provided, is not sufficient to pay such claims in full, he shall pay them *pro rata*, in proportion to the amounts thereof, respectively, at the time of such payment.

Second. The claims of the laborers above named for the balance due in excess of two weeks' wages, and of other laborers, tradesmen, material men and sub-contractors, who are entitled to liens, *pro rata*, in proportion to the amount due them, respectively.

All payments made as directed shall, as between such owner and contractor, be considered the same as if paid to such contractor.

Any payment made by the owner to the contractor after such notice, without retaining sufficient money to pay such claims,

shall be considered illegal, and made in violation of the rights of the sub-contractors, and the rights of such sub-contractors to a lien shall not be affected thereby; but the owner shall not be held liable to any sub-contractor, or other persons, whose name is omitted from the statement provided for in section five (5) of this act, nor for any larger amount than the sum therein named as due such person (provided such omission is not made with the knowledge or collusion of the owner), unless previous thereto or to his payment to his contractor he shall be notified as herein provided by such persons of their claim, and the true amount thereof.

Third. The balance, if any, to the contractor.

Sec. 29. If the money due to the sub-contractor shall not be paid within ten days after his notice is served, as provided in section twenty-five (25) and twenty-seven (27), or within ten days after his claim for lien is filed, as provided in section twenty-six (26), or on the date the same is shown to be due by the contractor's statement made, as provided in section five (5), and any money shall then be due from such owner to the contractor, then such person may either file his petition and enforce his lien as heretofore provided for the contractor in sections nine (9) to twenty-one (21), inclusive, of this act, except as to the time within which suit shall be brought, or he may sue the owner or contractor jointly for the amount due him in any court having jurisdiction of the amount claimed to be due, and a personal judgment may be rendered therein, as in other cases.

In such actions at law, as in suits to enforce the lien, the owner shall be liable to the complaint for no more than the *pro rata* share that such person would be entitled to with other sub-contractors out of the funds due to the contractor from the owner under the contract between them; and such actions at law shall be maintained against the owner only in case the complainant establishes his right to the lien. All suits and actions by sub-contractors shall be against both contractor and owner, jointly, and no decree or judgment shall be rendered therein until both are duly brought before the court by process or publication. All such judgments, where the lien is established, shall be against both jointly, but shall be enforced against the owner only to the extent that he is liable under his contract, as by this act provided, and shall recite the date from which the lien thereto attached, according to the provisions of sections one (1) and twenty-two (22) of this act; but this shall not preclude a judgment against the contractor, personally, where the lien is defeated.

Sec. 30. If the execution issued on a judgment obtained before a justice of the peace shall be returned not satisfied, a transcript of such judgment may be taken to the Circuit Court and spread upon the records thereof, and execution issued thereon as in other cases, except that the lien of the same shall be preserved as a preferred lien on the property improved from the date recited in the judgment, and enforced thereon the same as

if a decree had been rendered by the Circuit Court in a suit to enforce such lien under the provisions of this act.

Sec. 31. If there are several liens under section twenty-two (22) upon the same premises, and the owner or any person having such a lien shall fear that there is not a sufficient amount coming to the contractors to pay all of such liens, such owner or any one or more persons having such lien, may file his or their sworn bill or petition in the Circuit Court of the proper county, stating such fact, and such other facts as may be sufficient to a full understanding of the rights of the parties. The contractor and all persons having liens upon, or who are interested in the premises, so far as the same are known to or can be ascertained by the claimant, or petitioner, upon diligent inquiry, shall be made parties. Upon the hearing the court shall find the amount coming from the owner to the contractor, and the amount due to each of the persons having liens; and in case the amount found to be coming to the contractor shall be insufficient to discharge all the liens in full, the amount so found in favor of the contractor shall be divided between the persons entitled to such liens *pro rata*, in proportion to the amount so found to be due them respectively. If the amount so found to be coming to the contractor shall be sufficient to pay the liens in full, the same shall be so ordered. The premises may be sold as in other cases under this act. The parties to such suit shall prosecute the same under like requirements as are directed in section eleven (11) of this act, and all persons who shall be duly notified of such proceedings, and who shall fail to prove their claims, whether the same be in judgment, against the owner or not, shall forever lose the benefit of and be precluded from their liens and all claims against the owner.

Upon the filing of such bill or petition, the court may, on the motion of any person interested, and shall, upon final decree, stay further proceedings upon any judgment against the owner on account of such liens.

Sec. 32. Should the contractor, for any cause, fail to complete his contract, any person entitled to a lien as aforesaid may file his petition in any court of record against the owner and contractor, setting forth the nature of his claim, the amount due, as near as may be, and the names of the parties employed on such house or other improvement subject to liens; and a notice of such suit shall be served on the persons therein named; and such as shall appear shall have their claims adjudicated, and decree shall be entered against the owner and contractor for so much as the work and materials shall be shown to be reasonably worth, according to the original contract price, first deducting so much as shall have been rightly paid on said original contract by the owner, and damages, if any, that may be occasioned the owner by reason of the non-fulfillment of the original contract; the balance to be divided between such claimants in proportion to their respective interests, to be ascertained by the court. The premises may be sold as in other cases under

this act. The parties to such suit shall prosecute the same under like requirements as are directed in section eleven (11) of this act.

Payment of owner to contractor, when wrongful.

Sec. 33. No payment to the contractor or to his order shall be regarded as rightfully made, as against the sub-contractor, or party furnishing materials, if made by the owner without exercising or enforcing the rights and powers conferred upon him in sections five (5) and twenty-three (23) of this act.

Sec. 34. No petition shall be filed or suit commenced to enforce the lien created by sections twenty-two (22) and twenty-three (23) of this act, unless the same is commenced within four months after the time that the final payment is shown to be due the sub-contractor or party furnishing material by the statement of the contractor, made as provided for in section five (5); or of the sub-contractor, may as provided for in section twenty-three (23); or by the notice, served or given as provided for in sections twenty-five (25) and twenty-six (26); provided, if any delay in filing such petition or commencing suit be caused in consequence of the final payment not being due the contractor, the time of such delay shall not be reckoned.

Sec. 35. Upon the written demand of the owner, lienor, or any person interested in the real estate, or their agent or attorney, served on the person claiming the lien, or his agent or attorney, requiring suit to be commenced to enforce the lien, or answer to be filed in a pending suit, suit shall be commenced or answer filed within thirty days thereafter, or the lien shall be forfeited and the same released, if a claim for lien has been filed with the clerk of the Circuit Court.

Sec. 36. Whenever a claim for lien has been filed with the clerk of the Circuit Court, either by the contractor or the sub-contractor, and is afterward paid, with cost of filing same, or where there is a failure to institute suit to enforce the same after demand, as provided in the preceding section, within the time by this act limited, the person filing the same, or some one by him duly authorized in writing to do so, shall acknowledge satisfaction or release thereof in the proper book in such office, in writing, or written demand of the owner; and on neglect to do so for ten days after the claim has been paid or the time has expired to bring suit thereon, he shall forfeit to the owner the sum of twenty-five dollars (\$25.00), which may be recovered in an action of debt before a justice of the peace.

Sec. 37. Any owner, contractor, sub-contractor, or other person who shall purchase materials on credit and represent at the time of purchase that the same are to be used in a designated building, or buildings, or other improvement, and shall thereafter sell, use or cause to be used the said materials in the construction of, or remove the same to any building or improvement other than that designated, or dispose of the same for any purpose, without the written consent of the person of whom the

materials were purchased, with intent to defraud such person, shall be deemed guilty of a misdemeanor, and on conviction, shall be punished by a fine not exceeding five hundred dollars (\$500), or confined in the county jail not exceeding one year, or both so fined and imprisoned.

Sec. 38. Any architect, contractor, sub-contractor, material man, or other person furnishing services, labor or material for the purpose of or in constructing, building, altering, repairing or ornamenting a boat, barge, or other water craft, shall have a lien on such boat, barge, or other water craft, for the value of such services, labor or material in the same manner as in this act provided for services, labor or material furnished by such parties for the purpose of building, altering, repairing or ornamenting a house. And such lien may be established and enforced in the same manner as like liens are established and enforced under this act, and the parties shall be held to the same obligations, duties and liabilities as in the case of a contract for building, altering, repairing or ornamenting a house.

Sec. 39. The clerk of the Circuit Court shall endorse on the statement filed, pursuant to the provisions of section one (1) and six (6), the date of filing, and note in a book kept for that purpose and properly indexed, the name of the contractor filing the statement, of the person contracted with, the date of filing, a description of the property charged with the lien, the amount claimed and the date for final payment, for which the persons filing the statement shall pay one dollar (\$1) to the clerk.

When claims for lien are filed pursuant to the provisions of sections seven (7) and twenty-six (26), the clerk of the Circuit Court shall endorse thereon the date of filing and make an abstract thereof in a book kept for that purpose and properly indexed, containing the name of the person filing the lien, the amount of the lien, the date of filing, the name of the persons against whom the lien is filed, and a description of the property charged with the lien, for which the person filing the lien shall pay one dollar (\$1) to the clerk.

Sec. 40. Sections on to forty-seven, inclusive, of an act entitled, "An act to revise the law in relation to liens," approved March 25, 1874; and an act entitled, "An act to amend section twenty-eight of an act entitled, 'An act to revise the law in relation to liens,'" approved March 25, 1874, approved May 24, 1879; and an act entitled, "An act to amend sections four and twenty-eight and add sections fifty-two, fifty-three and fifty-four to 'An act to revise the law relating to liens,'" in force July 1, 1874, approved May 31, 1887; and an act entitled, "An act to amend sections twenty-nine, thirty and thirty-five, and repeal sections thirty-six, forty-two, forty-three and forty-four of an act entitled, 'An act to revise the law in relation to liens,'" approved March 25, 1874, in force July 1, 1874, approved June 16, 1887; and an act entitled, "An act to amend sections eleven, thirty-three, thirty-four and thirty-five of 'An act to revise the law in relation to liens,'" approved March 25, 1874, in force

July 1, 1874, as amended by an act approved June 16, 1887, and in force July 1, 1887, approved June 22, 1891; and all other acts and parts of acts inconsistent with this act are hereby repealed, except as herein re-enacted; *Provided*, that this section shall not be so construed as to effect any rights existing or actions pending at the time this act shall take effect.

Sec. 41. This act is and shall be construed as a remedial act, and shall take effect and be in force from and after its passage.

Approved June 26, 1895.

In force July 1, 1895.

LIENS—MECHANICS' LIENS.

- Section 1. Lien—When given.
- Section 2. Material furnished under mistake.
- Section 3. Labor, materials, etc., upon land belonging to married women.
- Section 4. Breach of contract on the part of the owner.
- Section 5. Sub-contractors and material men—Notice.
- Section 6. Verbal contract—Written contract.
- Section 7. Enforcement of lien as against creditor, incumbrancer, etc.—Claim for lien.
- Section 8. Liens assignable.
- Section 9. Venue—Judgment—Default.
- Section 10. Suits against personal representatives of deceased parties.
- Section 11. Bills or petitions—Joinder of parties—Summons.
- Section 12. Amendments.
- Section 13. Pleadings—Answer, replication—Issue.
- Section 14. Want of preparation for trial.
- Section 15. Preferred liens.
- Section 16. Incumbrances.
- Section 17. Entire contracts—Apportionment.
- Section 18. Costs—Attorney's fees.
- Section 19. Sales as under chancery decrees.
- Section 20. Application of proceeds.
- Section 21. Redemption.
- Section 22. Lien of sub-contractor—Rights defined.
- Section 23. New partner or joint contractors.
- Section 24. Public improvements—Lien.
- Section 25. Notice of claim—Lien.
- Section 26. When owner, etc., cannot be found in county—Notice.
- Section 27. Preferred lien.
- Section 28. Payments
- Section 29. Enforcement of unpaid sub-contractor's lien.
- Section 30. Execution returned unsatisfied—Transcript of judgment.
- Section 31. Several liens—Proceedings.

- Section 32. Breach of contract on the part of contractor—
Proceedings.
Section 33. Payments to contractor.
Section 34. Limitation.
Section 35. Written demand of lienor, etc., for commence-
ment of suit.
Section 36. Release of claim.
Section 37. Materials on credit with intent to defraud—
Penalty.
Section 38. Lien on water craft.
Section 39. Claim on lien.
Section 40. Repeal.
Section 41. Construction.



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Table of greatest center loads for horizontal rectangular beams of white or yellow pine, or of spruce, 1 inch broad, supported at both ends, and required not to bend more than $\frac{1}{10}$ inch per foot of clear span, or $\frac{1}{480}$ part of the entire clear span. In practice, to allow for knots, &c., take only $\frac{2}{3}$ rds. of clear span, or a constant .000325, instead of .00032.

This table was calculated with a constant .000325, instead of .00032. The loads in this table include the weight of the clear beam itself; .625 of which or $\frac{5}{8}$ of which must be deducted from the tabular loads to get the neat load, when the beam is loaded at its center. When uniformly loaded, the loads will be 1.6 times as great as those in this table; but in that case the weight of the entire clear beam must be deducted. In practice this deduction need rarely be made.

CLEAR SPANS IN FEET. (TRAUTWINE)																						
Depths in Inches.	3	4	5	6	7	8	9	10	12	14	16	18	20	25	30	35	40	Depth in Ins.	Wt. of 10 ft. Lgh of Beam.			
1 1/4	lbs. 8.4	lbs. 4.8	lbs. 3.0	lbs. 2.1	lbs. 5.3	lbs. 3.6	lbs. 2.1	lbs. 33	lbs. 23	lbs. 25	lbs. 27	lbs. 29	lbs. 32	lbs. 26	lbs. 23	lbs. 21	lbs. 40	1	lbs.			
2 1/4	28.7	16.2	10.4	7.2	12.4	19.9	11.1	128	89	84	83	83	83	83	83	83	83	2	lbs.			
3 1/4	68.4	38.4	24.4	17.1	24	19	14	26	21	26	26	26	26	26	26	26	26	3	lbs.			
4 1/4	130	75	48	33	24	19	14	26	21	26	26	26	26	26	26	26	26	4	lbs.			
5 1/4		130	83	58	42	32	22	40	33	34	34	34	34	34	34	34	34	5	lbs.			
6 1/4			196	137	100	77	60	49	33	25	27	29	32	26	23	21	21	6	lbs.			
7 1/4				267	192	144	108	86	70	48	36	37	39	32	26	23	23	7	lbs.			
8 1/4					336	259	200	156	128	115	84	64	51	41	33	29	29	8	lbs.			
9 1/4						412	324	263	207	183	109	83	65	52	42	36	36	9	lbs.			
10 1/4							484	392	324	253	166	126	100	82	63	52	52	10	lbs.			
11 1/4								560	460	389	286	219	173	140	104	85	85	11	lbs.			
12 1/4									662	534	403	300	237	192	154	123	123	12	lbs.			
13 1/4										769	619	484	361	291	221	181	181	13	lbs.			
14 1/4											813	659	522	420	332	273	273	14	lbs.			
15 1/4												875	692	558	441	350	350	15	lbs.			
16 1/4													936	753	604	484	484	16	lbs.			
17 1/4														1000	800	640	640	17	lbs.			
18 1/4															1075	860	690	18	lbs.			
19 1/4																1153	944	760	19	lbs.		
20 1/4																	1230	1000	800	20	lbs.	
21 1/4																		1309	1081	864	21	lbs.
22 1/4																		1385	1163	944	22	lbs.
23 1/4																		1462	1248	1024	23	lbs.
24 1/4																		1538	1333	1104	24	lbs.
25 1/4																		1615	1418	1184	25	lbs.
26 1/4																		1693	1503	1278	26	lbs.
27 1/4																		1770	1588	1358	27	lbs.
28 1/4																		1848	1673	1443	28	lbs.
29 1/4																		1927	1758	1523	29	lbs.
30 1/4																		2003	1843	1608	30	lbs.

On this side of the dark lines, the safe loads of table, Art 23, would not bend the wooden beams as much as 1/80 of their clear span.

Iron and Steel.

Average cast iron, with the same safe defl will bear about 1 1/2% as much as common yellow or white pine, or spruce: and wrought iron 19 times as much. The same proportion of the weight of the beam itself must, however, be deducted as stated above for wood. Average steel 29 times as much as beam.

On this side of the dark lines, the safe loads of table, Art 23, would not bend the wooden beams as much as $\frac{1}{480}$ of their clear span. Iron and Steel. Average cast iron, with the same safe def will bear about $1\frac{1}{2}$ as much as common yellow or white pine, or spruce; and wrought iron 19 times as much. The same proportion of the weight of the beam itself must, however, be deducted as stated above for wood. Average steel 29 times as much as pine.

TABLE OF TREADS AND RISES.

No. of Roads.	6	6½	7	7½	7¾	8	8½	9	9½	10	10½	11	11½	12	13	14
Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.	Inch Rise, ft., in. ft.
1	6	6½	7	7½	7¾	8	8½	9	9½	10	10½	11	11½	12	13	14
2	1 0	1 0½	1 1	1 1½	1 2¼	1 2¾	1 3¼	1 4	1 4½	1 5	1 5½	1 6	1 6½	1 7	1 7½	1 8
3	1 6	1 6½	1 7	1 7½	1 8¼	1 8¾	1 9¼	1 10	1 10½	1 11	1 11½	1 12	1 12½	1 13	1 13½	1 14
4	2 0	2 1	2 2	2 2½	2 3¼	2 3¾	2 4¼	2 5	2 5½	2 6	2 6½	2 7	2 7½	2 8	2 8½	2 9
5	2 6	2 7½	2 8½	2 9¼	2 10¼	2 10¾	2 11¼	2 12	2 12½	2 13	2 13½	2 14	2 14½	2 15	2 15½	2 16
6	3 0	3 1½	3 3	3 3¾	3 4¾	3 5¼	3 6	3 6½	3 7	3 7½	3 8	3 8½	3 9	3 9½	4 0	4 1
7	3 6	3 7½	3 9½	4 1	4 1½	4 2¼	4 3¼	4 4	4 4½	4 5	4 5½	4 6	4 6½	4 7	4 7½	4 8
8	4 0	4 2	4 4	4 4½	4 5¼	4 6¼	4 7¼	4 8	4 8½	4 9	4 9½	5 0	5 0½	5 1	5 1½	5 2
9	4 6	4 8½	4 10½	5 3	5 4½	5 5½	5 6½	5 7½	5 8½	5 9½	6 0½	6 1½	6 2½	6 3½	6 4½	6 5½
10	5 0	5 2½	5 5	5 5½	5 6½	5 7½	5 8½	5 9½	6 0½	6 1½	6 2½	6 3½	6 4½	6 5½	6 6½	6 7½
11	5 6	5 8½	5 11½	6 0	6 1½	6 2½	6 3½	6 4½	6 5½	6 6½	6 7½	6 8½	6 9½	7 0½	7 1½	7 2½
12	6 0	6 3	6 6	6 6½	6 7½	6 8½	6 9½	7 0½	7 1½	7 2½	7 3½	7 4½	7 5½	7 6½	7 7½	7 8½
13	6 6	6 9½	7 3	7 3½	7 4½	7 5½	7 6½	7 7½	7 8½	7 9½	8 0½	8 1½	8 2½	8 3½	8 4½	8 5½
14	7 0	7 3½	7 7	7 7½	7 8½	7 9½	8 0½	8 1½	8 2½	8 3½	8 4½	8 5½	8 6½	8 7½	8 8½	8 9½
15	7 6	7 9½	8 3	8 3½	8 4½	8 5½	8 6½	8 7½	8 8½	8 9½	9 0½	9 1½	9 2½	9 3½	9 4½	9 5½
16	8 0	8 4	8 8	8 8½	8 9½	9 0½	9 1½	9 2½	9 3½	9 4½	9 5½	9 6½	9 7½	9 8½	9 9½	10 0½
17	8 6	8 10½	9 2½	9 3	9 4	9 5	9 6	9 7	9 8	9 9	10 0	10 1	10 2	10 3	10 4	10 5
18	9 0	9 4½	9 9	9 9½	10 0	10 1	10 2	10 3	10 4	10 5	10 6	10 7	10 8	10 9	11 0	11 1
19	9 6	9 10½	10 3	10 3½	10 4½	10 5½	10 6½	10 7½	10 8½	10 9½	11 0½	11 1½	11 2½	11 3½	11 4½	11 5½
20	10 0	10 5	10 10	10 10½	10 11½	10 12½	10 13½	10 14½	10 15½	10 16½	10 17½	10 18½	10 19½	10 20½	10 21½	10 22½
21	10 6	10 11½	10 16	10 16½	10 17½	10 18½	10 19½	10 20½	10 21½	10 22½	10 23½	10 24½	10 25½	10 26½	10 27½	10 28½
22	11 0	11 5½	11 11	11 11½	11 12½	11 13½	11 14½	11 15½	11 16½	11 17½	11 18½	11 19½	11 20½	11 21½	11 22½	11 23½
23	11 6	11 11½	11 17	11 17½	11 18½	11 19½	11 20½	11 21½	11 22½	11 23½	11 24½	11 25½	11 26½	11 27½	11 28½	11 29½
24	12 0	12 6	12 12	12 12½	12 13½	12 14½	12 15½	12 16½	12 17½	12 18½	12 19½	12 20½	12 21½	12 22½	12 23½	12 24½
25	12 6	13 0½	13 6	13 6½	13 7½	13 8½	13 9½	13 10½	13 11½	13 12½	13 13½	13 14½	13 15½	13 16½	13 17½	13 18½
26	13 0	13 6½	14 1	14 1½	14 2½	14 3½	14 4½	14 5½	14 6½	14 7½	14 8½	14 9½	14 10½	14 11½	14 12½	14 13½
27	13 6	14 0½	14 7½	14 7½	14 8½	14 9½	14 10½	14 11½	14 12½	14 13½	14 14½	14 15½	14 16½	14 17½	14 18½	14 19½
28	14 0	14 7	15 2	15 2½	15 3½	15 4½	15 5½	15 6½	15 7½	15 8½	15 9½	15 10½	15 11½	15 12½	15 13½	15 14½
29	14 6	15 1½	15 8½	15 8½	15 9½	15 10½	15 11½	15 12½	15 13½	15 14½	15 15½	15 16½	15 17½	15 18½	15 19½	15 20½
30	15 0	15 7½	16 3	16 3½	16 4½	16 5½	16 6½	16 7½	16 8½	16 9½	16 10½	16 11½	16 12½	16 13½	16 14½	16 15½
31	15 6	16 1½	16 8½	16 8½	16 9½	16 10½	16 11½	16 12½	16 13½	16 14½	16 15½	16 16½	16 17½	16 18½	16 19½	16 20½
32	16 0	16 7½	17 3	17 3½	17 4½	17 5½	17 6½	17 7½	17 8½	17 9½	17 10½	17 11½	17 12½	17 13½	17 14½	17 15½
33	16 6	17 1½	17 8½	17 8½	17 9½	17 10½	17 11½	17 12½	17 13½	17 14½	17 15½	17 16½	17 17½	17 18½	17 19½	17 20½
34	17 0	17 7½	18 3	18 3½	18 4½	18 5½	18 6½	18 7½	18 8½	18 9½	18 10½	18 11½	18 12½	18 13½	18 14½	18 15½
35	17 6	18 1½	18 8½	18 8½	18 9½	18 10½	18 11½	18 12½	18 13½	18 14½	18 15½	18 16½	18 17½	18 18½	18 19½	18 20½
36	18 0	18 7½	19 3	19 3½	19 4½	19 5½	19 6½	19 7½	19 8½	19 9½	19 10½	19 11½	19 12½	19 13½	19 14½	19 15½
37	18 6	19 1½	19 8½	19 8½	19 9½	19 10½	19 11½	19 12½	19 13½	19 14½	19 15½	19 16½	19 17½	19 18½	19 19½	19 20½
38	19 0	19 7½	20 3	20 3½	20 4½	20 5½	20 6½	20 7½	20 8½	20 9½	20 10½	20 11½	20 12½	20 13½	20 14½	20 15½
39	19 6	20 1½	20 8½	20 8½	20 9½	20 10½	20 11½	20 12½	20 13½	20 14½	20 15½	20 16½	20 17½	20 18½	20 19½	20 20½
40	20 0	20 7½	21 3	21 3½	21 4½	21 5½	21 6½	21 7½	21 8½	21 9½	21 10½	21 11½	21 12½	21 13½	21 14½	21 15½
41	20 6	21 1½	21 8½	21 8½	21 9½	21 10½	21 11½	21 12½	21 13½	21 14½	21 15½	21 16½	21 17½	21 18½	21 19½	21 20½
42	21 0	21 7½	22 3	22 3½	22 4½	22 5½	22 6½	22 7½	22 8½	22 9½	22 10½	22 11½	22 12½	22 13½	22 14½	22 15½
43	21 6	22 1½	22 8½	22 8½	22 9½	22 10½	22 11½	22 12½	22 13½	22 14½	22 15½	22 16½	22 17½	22 18½	22 19½	22 20½
44	22 0	22 7½	23 3	23 3½	23 4½	23 5½	23 6½	23 7½	23 8½	23 9½	23 10½	23 11½	23 12½	23 13½	23 14½	23 15½
45	22 6	23 1½	23 8½	23 8½	23 9½	23 10½	23 11½	23 12½	23 13½	23 14½	23 15½	23 16½	23 17½	23 18½	23 19½	23 20½
46	23 0	23 7½	24 3	24 3½	24 4½	24 5½	24 6½	24 7½	24 8½	24 9½	24 10½	24 11½	24 12½	24 13½	24 14½	24 15½
47	23 6	24 1½	24 8½	24 8½	24 9½	24 10½	24 11½	24 12½	24 13½	24 14½	24 15½	24 16½	24 17½	24 18½	24 19½	24 20½
48	24 0	24 7½	25 3	25 3½	25 4½	25 5½	25 6½	25 7½	25 8½	25 9½	25 10½	25 11½	25 12½	25 13½	25 14½	25 15½
49	24 6	25 1½	25 8½	25 8½	25 9½	25 10½	25 11½	25 12½	25 13½	25 14½	25 15½	25 16½	25 17½	25 18½	25 19½	25 20½
50	25 0	25 7½	26 3	26 3½	26 4½	26 5½	26 6½	26 7½	26 8½	26 9½	26 10½	26 11½	26 12½	26 13½	26 14½	26 15½
51	25 6	26 1½	26 8½	26 8½	26 9½	26 10½	26 11½	26 12½	26 13½	26 14½	26 15½	26 16½	26 17½	26 18½	26 19½	26 20½
52	26 0	26 7½	27 3	27 3½	27 4½	27 5½	27 6½	27 7½	27 8½	27 9½	27 10½	27 11½	27 12½	27 13½	27 14½	27 15½
53	26 6	27 1½	27 8½	27 8½	27 9½	27 10½	27 11½	27 12½	27 13½	27 14½	27 15½	27 16½	27 17½	27 18½	27 19½	27 20½
54	27 0	27 7½	28 3	28 3½	28 4½	28 5½	28 6½	28 7½	28 8½	28 9½	28 10½	28 11½	28 12½	28 13½	28 14½	28 15½
55	27 6	28 1½	28 8½	28 8½	28 9½	28 10½	28 11½	28 12½	28 13½	28 14½	28 15½	28 16½	28 17½	28 18½	28 19½	28 20½
56	28 0	28 7½	29 3	29 3½	29 4½	29 5½	29 6½	29 7½	29 8½	29 9½	29 10½	29 11½	29 12½	29 13½	29 14½	29 15½
57	28 6	29 1½	29 8½	29 8½	29 9½	29 10½	29 11½	29 12½	29 13½	29 14½	29 15½	29 16½	29 17½	29 18½	29 19½	29 20½
58	29 0	29 7½	30 3	30 3½	30 4½	30 5½	30 6½	30 7½	30 8½	30 9½	30 10½	30 11½	30 12½	30 13½	30 14½	30 15½
59	29 6	30 1½	30 8½	30 8½	30 9½	30 10½	30 11½	30 12½	30 13½	30 14½	30 15½	30 16½	30 17½	30 18½	30 19½	30 20½
60	30 0	30 7½	31 3	31 3½	31 4½	31 5½	31 6½	31 7½	31 8½	31 9½	31 10½	31 11½	31 12½	31 13½	31 14½	31 15½
61	30 6	31 1½	31 8½	31 8½	31 9½	31 10½	31 11½	31 12½	31 13½	31 14½	31 15½	31 16½	31 17½	31 18½	31 19½	31 20½
62	31 0	31 7½	32 3	32 3½	32 4½	32 5½	32 6½	32 7½	32 8½	32 9½	32 10½	32 11½	32 12½	32 13½	32 14½	32 15½
63	31 6	32 1½	32 8½	32 8½	32 9½	32 10½	32 11½	32 12½	32 13½	32 14½	32 15½	32 16½	32 17½	32 18½	32 19½	32 20½
64	32 0	32 7½	33 3	33 3½	33 4½	33 5½	33 6½	33 7½	33 8½	33 9½	33 10½	33 11½	33 12½	33 13½	33 14½	33 15½
65	32 6	33 1½	33 8½	33 8½	33 9½	33 10½	33 11½	33 12½	33 13½	33 14½	33 15½	33 16½	33 17½	33 18½	33 19½	33 20½
66	33 0	33 7½	34 3	34 3½	34 4½	34 5½	34 6½	34 7½	34 8½	34 9½	34 10½	34 11½	34 12½	34 13½	34 14½	34 15½
67	33 6	34 1½	34 8½	34 8½	34 9½	34 10½	34 11½	34 12½	34 13½	34 14½	34 15½	34 16½	34 17½	34 18½	34 19½	34 20½
68	34 0	34 7½	35 3	35 3½	35 4½	35 5½	35 6½	35 7½	35 8½	35 9½	35 10½	35 11½	35 12½	35 13½	35 14½	35 15½
69	34 6	35 1½	35 8½	35 8½	35 9½	35 10½	35 11½	35 12½	35 13½	35 14½	35 15½	35 16½	35 17½	35 18½	35 19½	35 20½
70	35 0	35 7½	36 3	36 3½	36 4½	36 5½	36 6½	36 7½	36 8½	36 9½	36 10½	36 11½	36 12½	36 13½	36 14½	36 15½
71	35 6	36 1½	36 8½	36												

Handy Table.

Diameter of a circle $\times 3.1416$ = circumference.
 Radius of a circle $\times 6.283185$ = circumference.
 Square of the diameter of a circle $\times 0.7854$ = area.
 Square of the circumference of a circle $\times 0.07958$ = area.
 Half the circumference of a circle $\times$ half its diameter = area.
 Circumference of a circle $\times 0.159155$ = radius.
 Square root of the area of a circle $\div 0.56419$ = radius.
 Circumference of a circle $\times 0.31831$ = diameter.
 Square root of the area of a circle $\times 1.12838$ = diameter.
 Diameter of a circle $\times 0.86$ = side of inscribed equilateral triangle.
 Diameter of a circle $\times 0.7071$ = side of an inscribed square.
 Circumference of a circle $\div 0.225$ = side of an inscribed square.
 Circumference of a circle $\times 0.282$ = side of an equal square.
 Diameter of a circle $\times 0.8862$ = side of an equal square.
 Diameter of a circle $\times 0.8862$ = side of an equal square.
 Base of a triangle $\times \frac{1}{2}$ the altitude = area.
 Multiplying both diameters and .7854 together = area of an ellipse.
 Surface of a sphere $\times \frac{1}{4}$ of its diameter = solidity.
 Circumference of a sphere $\times$ its diameter = surface.
 Square of the diameter of a sphere $\times 3.1416$ = surface.
 Square of the circumference of a sphere $\times 0.3183$ = surface.
 Cube of the diameter of a sphere $\times 0.5236$ = solidity.
 Cube of the radius of a sphere $\times 4.1888$ = solidity.
 Cube of the circumference of a sphere $\times 0.016887$ = solidity.
 Square root of the surface of a sphere $\times 0.56419$ = diameter.
 Square root of the surface of a sphere $\div 1.772454$ = circumference.
 Cube root of the solidity of a sphere $\times 1.2407$ = diameter.
 Cube root of the solidity of a sphere $\times 3.8978$ = circumference.
 Radius of a sphere $\times 1.1547$ = side of inscribed cube.
 Square root of ($\frac{1}{3}$ of the square of) the diameter of a sphere = side of inscribed cube.
 Area of its base $\times \frac{1}{3}$ of its altitude = solidity of a cone or pyramid, whether round, square, or triangular.
 Area of one of its sides $\times 6$ = surface of a cube.
 Altitude of trapezoid $\times \frac{1}{2}$ the sum of its parallel sides = area.

NAILS REQUIRED FOR DIFFERENT KINDS OF WORK.

For 1,000 shingles, $3\frac{1}{2}$ to 5 lbs. 4d. nails, or 3 to $3\frac{1}{2}$ lbs. 3d.
 For 1,000 laths, about 7 lbs. 3d. fine.
 For 1,000 feet clapboards, about 18 lbs. 6d. box.
 For 1,000 feet covering boards, about 20 lbs. 8d. common, or 25 lbs. 10d.
 For 1,000 feet upper floors, square edged, about 38 lbs. 10d. floor, or 41 lbs. 12d. floor.
 For 1,000 feet upper floors, matched and blind-nailed, 38 lbs. 10d., or 42 lbs. 12d.
 common.
 For 10 feet partitions, studs or studding, 1 lb. 10d. common.
 For 1,000 feet furring, 1x3, about 45 lbs. 10d. common.
 For 1,000 feet furring, 1x2, about 65 lbs. 10d. common.
 For 1,000 feet pine finish, about 30 lbs. 8d. finish.
 For roofs and gutters use seven-pound lead; for hips and ridges, six-pound; for flashings, four-pound.
 Gutters should have a fall of at least one inch in ten feet.
 No sheet lead should be laid in greater length than ten or twelve feet without a dip to allow for expansion.
 Joints to lead pipes require a pound of solder for every inch in diameter.

TO FIND THE RADIUS OF AN ARCH

Centers.—The following is the method to find the radius for arch centers $S =$
 span $R =$ rise
 Then $\left\{ \frac{\left(\frac{S}{2}\right)^2}{R} + R \right\} \div 2$ or: To the square of half the span
 divided by the rise, add the rise and divide this sum by 2, and the result will be the
 radius required.

Example:—Suppose an arch 20 feet span and 5 feet rise then:

$$\left\{ \frac{10^2}{5} + 5 \right\} \div 2 = \frac{20 + 5}{2} = 12 \text{ ft. 6 in. the radius required.}$$

IRON GIRDERS.

The equal corresponding weight in the center of a girder caused by a certain
 ascertained weight coming at any other point of the same girder.

$W =$ Known Weight.

$L =$ The whole length between the bearings.

$D =$ Distance between resting point of W and the furthest support.

$D' =$ Distance between resting point of W and the nearest support.

$E =$ Half the distance between the supports.

$x =$ The equal corresponding weight or strain in the center.

$$\text{Then } x = \frac{WE}{D}$$

Example.—Let $A B$ be a girder 12 ft. long with a girder resting on it 4 ft. from
 A with a known resultant weight of 5 tons, then x or strain at C (center)

$$\frac{5 \times 6}{8} = \frac{30}{8} \text{ or } 3\frac{3}{4} \text{ tons.}$$

To resolve the weight W into the two concurrent parallel forces at A and B , or
 the resultant weight or strain at the bearings. Taking the above example.

$$\text{Strain at } B = \frac{WD'}{L} = \frac{5 \times 4}{12} = 1\frac{2}{3} \text{ tons.} \quad \text{Strain at } A = \frac{WD}{L} = \frac{5 \times 8}{12} = 3\frac{1}{3} \text{ tons.}$$

When a beam is fixed at one end only, and has to support a weight uniformly
 distributed over the length the form of equal strength is a triangle, supposing the
 beam to be everywhere the same, but if the section of beam be circular, then the
 form of equal strength will be a semi-cubic parabola.

A cast iron girder if made too deep will be too rigid, and a comparatively small
 impulsive force will break it, the outline of the compressed side or top flange of a
 C. I. girder if to bear a weight uniformly distributed should be an arch the radius of
 which equals the square of half the length divided by the depth or

$$\left(\frac{L}{2}\right)^2 \div d \text{ where } L = \text{length of Girder between the bearings.}$$

$d =$ depth of Girder.

If the depth is obliged to be uniform then the outline of the breadth should be
 formed by setting two parabolas base to base, their verticals being in the middle of
 the length.

RULE FOR CALCULATING PROPORTIONED WIDTH AND HEIGHT OF TREADS AND RISES OF STAIRS.

Subtract the width of tread from 24 in. and the result will be twice the height
 of the riser. Thus: if the tread is 10 in. wide, then $24 - 10 = 14 \div 2 = 7$ in., the
 height or riser proportionate to a 10 in. tread. This is exclusive of nosings.

WOODEN BEAMS.

Table of safe quiescent loads for horizontal rectangular beams one inch thick, supported at both ends, the load equally distributed.

SPAN IN FEET	DEPTH OF BEAM IN INCHES.											
	6	7	8	9	10	11	12	13	14	15	16	
5	800	1090	1420	1800	2220	2690	3200	3750	4350	5000	5690	
6	670	910	1180	1500	1850	2240	2670	3130	3630	4170	4740	
7	570	780	1010	1290	1590	1920	2280	2680	3110	3570	4060	
8	500	680	890	1120	1390	1680	2000	2350	2720	3130	3560	
9	440	600	790	1000	1210	1490	1780	2090	2420	2780	3160	
10	400	540	710	900	1110	1340	1600	1880	2180	2500	2840	
11	360	490	650	820	1010	1220	1450	1710	1980	2270	2590	
12	330	450	590	750	930	1120	1330	1560	1810	2080	2370	
13	310	420	550	690	850	1030	1230	1440	1680	1920	2190	
14	290	390	510	640	790	960	1140	1340	1560	1790	2030	
15	270	360	470	600	740	900	1070	1250	1450	1670	1900	
16	250	340	440	560	690	840	1000	1170	1360	1560	1780	
17	230	320	420	530	650	790	940	1100	1280	1470	1670	
18	220	300	400	500	620	750	890	1040	1210	1390	1580	
19	210	290	380	470	590	710	840	990	1150	1320	1500	
20	200	270	360	450	560	670	800	940	1090	1250	1420	
21	190	260	340	430	530	640	760	890	1040	1190	1350	
22	180	250	330	410	500	610	730	850	990	1140	1290	
23	170	240	300	390	480	580	700	810	950	1090	1230	
24	160	230	290	370	460	560	670	780	910	1040	1180	
25	160	220	280	350	440	540	640	750	870	1000	1130	
26	150	210	270	340	420	520	610	720	840	960	1090	
27	150	200	260	330	400	500	590	690	810	920	1050	
28	140	190	250	320	490	480	570	670	780	890	1010	
29	140	190	250	310	380	460	550	650	750	860	980	
30	130	180	240	300	370	450	530	630	730	830	950	

This table has been calculated for extreme fiber strain of 1,000 lbs. per square inch, giving a safety of 6 in ordinary building timber of fair quality.

Oak and yellow pine will carry a load one-fourth greater.

When more accuracy is required the weight of the beam itself must be deducted.

Care must be taken to let the beams rest for a sufficient distance on their supports to guard against crushing at the ends, especially in placing very heavy loads upon short, but deep and strong beams.

FORMULAE FOR ASCERTAINING STRENGTH OF BEAMS.

To ascertain the strength of a beam of any given size, or materials, multiply its width (in inches) by the square of the depth (in inches) and divide by the span (in feet)—multiply the quotient by the constant (co-efficient of strength) of material used, and the result will be the breaking load.

In ordinary practice a sixth of the "breaking" would be a "safe load."

Width in inches × sq. of depth in inches

Center breaking load in lbs. = ————— × constant*

Clear span in feet

Example: To ascertain the safe centre load in lbs. for a white pine beam 8 inches wide, 12 inches deep, 16 feet clear span.

$$\frac{\text{Width (in inches)} \times \text{square of depth (in inches)}}{\text{Clear span (in feet)}} \times \frac{\text{constant}^*}{\text{factor of safety.}}$$

$$\frac{8 \times 144}{16} \times \frac{450^*}{6} = 5,400 \text{ lbs.}$$

* Constants or transverse strengths in lbs. for center loads are:

American white pine.....450 lbs.

American yellow pine.....550 lbs.

American white oak.....600 lbs.

Constants are for loads at rest.

Where beam is loaded at the center to get neat load, deduct ½ weight of beam.

Where beam is uniformly loaded the strength is double, to get neat load deduct entire weight of beam.

MISCELLANEOUS AND USEFUL INFORMATION.

Useful Notes.

Roof boards weigh about three pounds per superficial foot.

Terra cotta tiling weighs from 25 to 35 pounds per square foot.

Hollow tile for five-inch partition weighs from 22 to 35 pounds per superficial foot.

Lath and plastering, two-coat work, weighs from 9 to 12 pounds per superficial foot.

The weight of a superficial foot of brickwork eight inches thick, including mortar, is from 83 to 87 pounds.

An iron roof 100 feet wide, with a rise of one-third pitch, will weigh from 10 to 15 pounds per superficial foot.

One hundred pounds per square foot distributed uniformly over a surface of a bridge is a safe working standard.

The weight per square foot of roof tiling, set in iron or between wood rafters ready for slating, is about 12 pounds.

A fireproof floor constructed of iron beams and four-inch brick arches will weigh from 65 to 75 pounds per superficial foot.

The safe and proper bearing of joist, timber and girders supporting a floor should not exceed ten tons on brick walls and fourteen tons on good stone walls.

A fireproof floor constructed of iron beams and of iron arches made of No. 18 iron, and filled in on top with concrete or slag and cement, will weigh about the same as brickwork four inches thick.

Smallest convenient size of slab for a 14-inch washbowl, 21 by 24 inches. Height of slab from floor, 2 feet 6 inches. Very small (12) inch corner washbowl: slab 1 foot 11 inches each side.

Space occupied by water closets, 2 feet 6 inches wide, 2 feet deep.

Urinals should be not less than 2 feet 2 inches between partitions; partitions 6 feet high.

Horse Stalls—Width, 3 feet 10 inches to 4 feet, or over 5 feet in width and 9 feet long. Width should not be between 4 and 5 feet, as in such cases the horse is liable to cast himself.

Pitch of Tin, Copper or Tar and Gravel Roof—Five-eighths of an inch to the foot and upward.

A load of mortar measures a cubic yard, requires a cubic yard of sand and nine bushels of lime, and will fill thirty hods.

A bricklayer's hod measuring one foot four inches by nine inches, equals 1,296 cubic inches in capacity, and contains twenty bricks.

A single load of sand or other materials equals a cubic yard.

One thousand bricks closely stacked occupy about fifty-six cubic feet.

One thousand old bricks cleaned and loosely stacked occupy about seventy-two cubic feet.

One hundred yards of plastering will require fourteen hundred laths, four and a half bushels of lime, four-fifths of a load of sand, nine pounds of hair and five pounds of nails, for two-coat work.

A bushel of hair weighs, when dry, about fifteen pounds.

Flashings.—By "flashings" are meant pieces of tin, zinc or copper laid over slate, and up against wall, chimneys, copings, etc.

Counter flashings are of lead or zinc, and are solid between the courses in brick, and turned down over the flashings.

In flashing against stonework, grooves should be cut to receive the counter flashing.

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London Guaranty & Accident Co. (Ltd.), 171 La
Salle Central 1033

ENGINEERS.

Shankland, E. C. & R. M., 1106 The Rookery.....Harrison 488

EXCAVATING.

Iwema, B., 154 W. Washington Blvd.....Monroe 140

FLOOR TILES.

Pickens, Edward, 182-184 Dearborn.....Central 1916

FLOOR TILING.

Sherman & Flavin, 2511 S. State.....South 697

FLOORING.

Acme Floor Co., 104 Franklin.....Main 1894
Wilce, T., Co., 22d and Throop.....Canal 832

FLOORS.

Acme Floor Co., 104 Franklin.....Main 1894

FIRE BRICK.

Moulding, Thomas Co., 1202, 142 Washington.....Main 117

FIRE CLAY.

Moulding, Thomas Co., 1202, 142 Washington.....Main 117

FIRE ESCAPES.

American Iron & Wire Works, 575 Carroll Ave.....West 916
Benner Mfg. Co., 110 W. Monroe.....Monroe 755
Halsted, Joseph, 388-390 W. Randolph.....Monroe 510
Hickey, M. H., Wire & Iron Works, 54 Dearborn..Central 616
Smith, F. P., Wire & Iron Works, office 100-102 Lake,
factory 32-50 Chester.....L. D. Central 438

FIRE INSURANCE.

Milwaukee Mechanics Ins. Co., of Milwaukee, Wis.,
258, 159 LaSalle.....Central 1963

FIRE PROOFING MATERIAL.

National Fire Proofing Co., 806 Hartford Bldg.....
.....Auto 3352. Central 352

FRAMES.

Chandler Lumber Co., 100 Elston Ave.....Monroe 2076
Commercial Sash & Door Co., 49th and Paulina.....Yards 749
Englewood Sash & Door Co., Wallace bet. 59th and
60th Wentworth 563
Foley Mfg. Co., offices 471 W. 22d, factory 474-498 W.
21st Pl.....Canal 54
North Side Lumber & Timber Co., Lincoln Ave. and
Grace Lake View 926
Peterson, C. E., Co., 4914 Wentworth.....Yards 515

GALVANIZED IRON ROOFING.

Lloyd Iron Roofing & Paint Co. (The), 99-101 W.
Monroe Monroe 551

GENERAL CONTRACTORS.

Stresenreuter Bros., 614 Chamber of Commerce.....Main 4790

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Friestedt, L. P., Co., 1408-1412 Tribune Bldg.....Central 1954
Sunderman, John & Co., 7214 Low Ave.....Tel. Went 2221

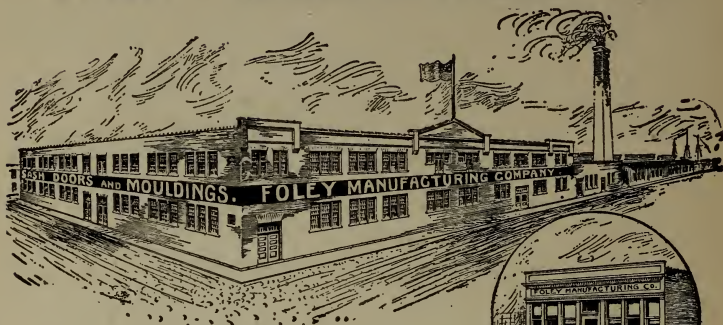
INTERIOR FINISH.

Acme Floor Co., 104 Franklin.....Main 1894
Biggs, A., Sash & Door Co. (The), 1140 Elston Ave..West 2064
Builders' Mfg. Co., 243-247 N. Wells.....North 167
Chandler Lumber Co., 100 Elston Ave.....Monroe 2076
Chicago Sash, Door & Blind Mfg. Co., 48-62 W. North
Ave. Monroe 16 and 911

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Chicago Veneered Door Co., 316 Chamber of Commerce	Main	2455
Commercial Sash & Door Co., 49th and Paulina.....	Yards	749
Englewood Sash & Door Co., Wallace bet. 59th and 60th	Wentworth	563
Foley Mfg. Co., office 471 W. 22d, factory 474-498 W. 21st Pl.....	Canal	54
Nollau & Wolff Mfg. Co. (The), 35 to 45 Fullerton Av. North	North	480
North Side Lumber & Timber Co., Lincoln Ave. and Grace.....	Lake View	926-927
Peterson, C. E., Co., 4914 Wentworth Ave.....	Yards	515
Rittenhouse & Embree Co., 35th and Center Ave....	Yards	502
Warren, Wm. H., Mfg. Co., Smith Av. and Blackhawk. North	North	602
Wilce, T., Co., 22d and Throop.....	Canal	832

IRON (Ornamental).

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510
Hickey, M. H., Wire & Iron Works, 54 Dearborn..	Central	616

IRON DOORS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Variety Mfg. Co., 77 W. Lake.....	Main	3297

IRON DOORS (All Kinds).

Variety Mfg. Co., 77 W. Lake.....	Main	3297
Voss, Frederick, 617-621 Austin Ave.....	West	757

IRON DOORS AND SHUTTERS.

Benner Mfg. Co., 110 W. Monroe.....	Monroe	755
South-Western Architectural Iron Works, 734 Blue Island Ave.....	Canal	1584
Variety Mfg. Co., 77 W. Lake.....	Main	3297

IRON DOORS AND SHUTTERS (Rolling and Swinging).

Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438
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IRON FENCES.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Hickey, M. H., Wire & Iron Works, 54 Dearborn....	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

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Voss, Frederick, 617-621 Austin Ave.....	West	757
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American Iron & Wire Works, 575 Carroll Ave.....	West	916
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IRON RAILINGS AND GUARDS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
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Hickey, M. H., Wire & Iron Works, 54 Dearborn....	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

IRON STAIRS.

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Benner Mfg. Co., 110 W. Monroe.....	Monroe	755
Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510
Hickey, M. H., Wire & Iron Works, 54 Dearborn....	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

IRON STORE FRONTS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Benner Mfg. Co., 110 W. Monroe.....	Monroe	755
Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510
Hickey, M. H., Wire & Iron Works, 54 Dearborn....	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

IRON WORK FOR BUILDINGS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510
Hickey, M. H., Wire & Iron Works, 54 Dearborn....	Central	616
Mulvey, Charles, Mfg. Co., 16-18-20 S. Jefferson.....	Main	3297
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

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Wisconsin Lime & Cement Co., 605-607 Chamber of
Commerce Main 1313

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Bader, Ross & Co., Clybourn and Southport Aves., foot of A.....	North	382
Burns, John E., Lumber Co., Chicago Ave., ½ Blk. east of Halsted.....	Monroe	211
Chandler Lumber Co., 100 Elston Ave.....	Monroe	2076
Chicago Lumber & Coal Co., 1103 Chamber of Com- merce	Main	4299
Deacon, J. C., & Co., Loomis, s of W. 22d....	Canal	247 and 1254
Howes Lumber Co., 7101 Wallace.....	Wentworth	505
North Side Lumber & Timber Co., Lincoln Ave. and Grace.....	Lake View	926-927
Nourse-Taylor Lumber Co., 1117 Chamber of Com- merce	Main	4682
Pilsen Lumber Co. (The), Laflin and 22d.....	Canal	1031
Rittenhouse & Embree Co., 35th and Centre Ave....	Yards	502
Schillo, Adam, Lumber Co., cor. Weed and Hawthorne Ave.	North	1626

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Spry, John, Lumber Co., Ashland Ave. s. of 22d.....Canal 46

LUMBER (Fir).

Nourse-Taylor Lumber Co., Chamber of Commerce...Main 4682

LUMBER (Yellow Pine).

Chicago Lumber & Coal Co., 1103 Chamber of Com-
merce Main | 4299 |

North Side Lumber & Timber Co., Lincoln Ave. and
Grace..... Lake View | 926-927 |

Nourse-Taylor Lumber Co., Chamber of Commerce...Main 4682

MANTELS (Wood).

Pickens, Edward, 182-184 Dearborn.....Central 1916

MARBLE TILES.

Pickens, Edward, 182-184 Dearborn.....Central 1916

MARBLE WAINSCOTING.

Pickens, Edward, 182-184 Dearborn.....Central 1916

MARBLE WORK.

Pickens, Edward, 182-184 Dearborn.....Central 1916

MARBLE AND MOSAIC.

Pickens, Edward, 182-184 Dearborn.....Central 1916

Sherman & Flavin, 2511 S. State.....South 697

MASON CONTRACTORS.

Sollitt, Ralph & Sumner, 1100 Hartford Bldg.....Central 4148

MASONRY.

Schlueter, Henry W., Marquette Bldg.....Central 1522

METAL CEILINGS.

Krefting, E., 119 W. Van Buren.....Monroe 1367
Lloyd Iron Roofing & Paint Co. (The), 99-101 W.
Monroe Monroe 551

METAL SIDEWALKS.

Lloyd Iron Roofing & Paint Co. (The), 99-101 W.
Monroe Monroe 551

MONUMENTS.

Milwaukee Monument Co., 813 Chamber of Commerce..Main 3616

MOSAICS.

Pickens, Edward, 182-184 Dearborn.....Central 1916

MOULDINGS.

Builders' Mfg. Co., 243-247 N. Wells.....North 167
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United States Gypsum Co., 200 Monroe.....Main 2515

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PRESSED BRICK AND WALL TIES.

Moulding, Thomas, Co., 1202, 142 Washington.....Main 117

PUMPS, HOT AIR.

Rider-Ericsson Engine Co., 40 Dearborn.....Central 4312

RAILINGS AND FENCES (Iron).

American Iron & Wire Works, 575 Carroll Ave.....West 916

REAL ESTATE.

Miller, Fred, 186-188 Madison.....Main 2800

REAL ESTATE LOANS.

Miller, Fred, 186-188 Madison.....Main 2800

ROOFERS (Gravel).

Burke, Augustus, 100-104 W. Superior.....Monroe 208

Burke, John & Co., 999 W. Madison.....West 1090

Lewis Roofing Co., The, 1170-1180 S. Robey.....Canal 260

North Chicago Roofing Co., The, 128-130 E. North Ave. North 570

ROOFING CEMENT.

Lloyd Iron Roofing & Paint Co. (The), 99-101 W. Monroe Monroe 551

ROOFING MATERIALS.

Lewis, F. J., Mfg. Co., 1170 to 1180 S. Robey.....Canal 260

ROOFING PAINTS.

Lloyd Iron Roofing & Paint Co. (The), 99-101 W. Monroe Monroe 551

ROOFING (Shingles).

Kyle, Geo. A., 80 Hudson Ave.....North 1323

ROOFING (Slate, Tin and Iron).

Krefting, E., 119 W. Van Buren.....Monroe 1367

SASH, DOORS AND BLINDS.

Biggs, A., Sash & Door Co. (The), 1140 Elston Ave...West 2064

Builders' Mfg. Co., 243-247 N. Wells.....North 167

Chicago Sash, Door & Blind Mfg. Co., 48-62 W. North Ave. Monroe 16—911

Englewood Sash & Door Co., Wallace bet. 59th and 60th Wentworth 563

Filip, Meydrech & Co., 505-509 W. 21st.....Canal 317

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North Side Lumber & Timber Co., Lincoln Ave. and Grace Lake View 926—927

Nollau & Wolff Mfg. Co. (The), 35-45 Fullerton Ave...	North	480
Peterson, C. E., Co., 4914 Wentworth Ave.....	Yards	515

SCREENS FOR WINDOWS AND DOORS.

Foley Mfg. Co., office 471 W. 22d, factory 474-498 W. 21st Pl.....	Canal	54
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SHEET METAL WORKS.

Krefting, E., 119 W. Van Buren.....	Monroe	1367
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SHUTTERS AND DOORS (Iron).

American Iron & Wire Works, 575 Carroll Ave.....	West	916
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SIDEWALK LIGHTS.

Hickey, M. H., Wire & Iron Works, 54 Dearborn...	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438

SKYLIGHTS.

Krefting, E., 119 W. Van Buren.....	Monroe	1367
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STABLE FITTINGS (Iron).

American Iron & Wire Works, 575 Carroll Ave.....	West	916
Hickey, M. H., Wire & Iron Works, 54 Dearborn...	Central	616
Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438
Voss, Frederick, 617 to 621 Austin Ave.....	West	757

STAIRWORK.

Commercial Sash & Door Co., 49th and Paulina.....	Yards	749
Englewood Sash & Door Co., Wallace bet. 59th and 60th	Wentworth	563
Peterson, C. E., 4914 Wentworth Ave.....	Yards	515

STEEL BEAMS.

Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510
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STEEL ROOFING.

Lloyd Iron Roofing & Paint Co. (The), 99-101 W. Monroe	Monroe	551
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STEEL AND IRON WORK.

Hickey, M. H., Wire & Iron Works, 54 Dearborn...	Central	616
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STORE FRONTS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
South-Western Architectural Iron Works, 734 Blue Island Ave.....	Canal	1584

STRUCTURAL IRON WORKS.

American Iron & Wire Works, 575 Carroll Ave.....	West	916
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STRUCTURAL STEEL AND IRON.

Smith, F. P., Wire & Iron Works, office 100-102 Lake, factory 32-50 Chester.....	L. D. Central	438
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STRUCTURAL AND ORNAMENTAL IRON.

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Halsted, Joseph, 388-390 W. Randolph.....	Monroe	510

Hickey, M. H., Wire & Iron Works, 54 Dearborn...Central 616
 Smith, F. P., Wire & Iron Works, office 100-102 Lake,
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South-Western Architectural Iron Works, 734 Blue
 Island Ave.....Canal 1584

SURETY BONDS.

Thomas, George K., 604 Chamber of Commerce.....Main 2651

SURVEYORS.

Summers, A. H., & Sons, 422, 145 LaSalle.....Central 4200

TEAMING.

Iwema, B., 154 W. Washington.....Monroe 140

TERRA COTTA.

North-Western Terra Cotta Co., 1000 Clybourn Ave..North 1463

TIFFANY ENAMELED BRICK.

Moulding, Thomas, Co., 1202, 142 Washington.....Main 117

TILE WAINSCOTING.

Pickens, Edward, 182-184 Dearborn.....Central 1916

TILES.

Interior Woodworking Co., 296 Wabash Ave.....Harrison 86

VENEERED DOORS.

Chicago Veneered Door Co., 316 Chamber of Com-
 merce Main 2455

Peterson, C. E., Co., 4914 Wentworth Ave.....Yards 515

VENEERS.

Chicago Veneered Door Co., 316 Chamber of Com-
 merce Main 2455

WALL PLASTER.

United States Gypsum Co., 200 Monroe.....Main 2515

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WIRE FENCING.

American Iron & Wire Works, 575 Carroll Ave.....West 916

Hickey, M. H., Wire & Iron Works, 54 Dearborn...Central 616

Smith, F. P., Wire & Iron Works, office 100-102 Lake,
 factory 32-50 Chester.....L. D. Central 438

WIRE FENCING AND GUARDS.

American Iron & Wire Works, 575 Carroll Ave.....West 916

Voss, Frederick, 617-621 Austin Ave.....West 757

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Voss, Frederick, 617 to 621 Austin Ave.....West 757

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Acme Floor Co., 104 Franklin.....Main 1894

WOOD CARVER.

Kopriwa, E., 339 Clybourn Ave.....Black 2952

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WOOD MANTELS.

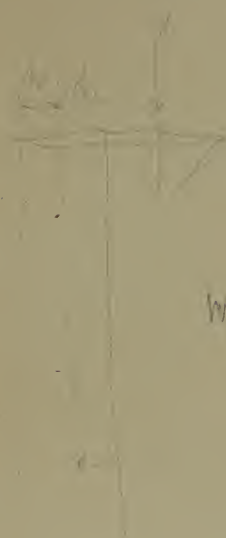
Interior Woodworking Co., 296 Wabash Ave.....Harrison 86

WOOD MANTELS AND CONSOLES.

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WOOD TURNING.

Peterson, C. E., Co., 4914 Wentworth Ave.....Yards 515



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